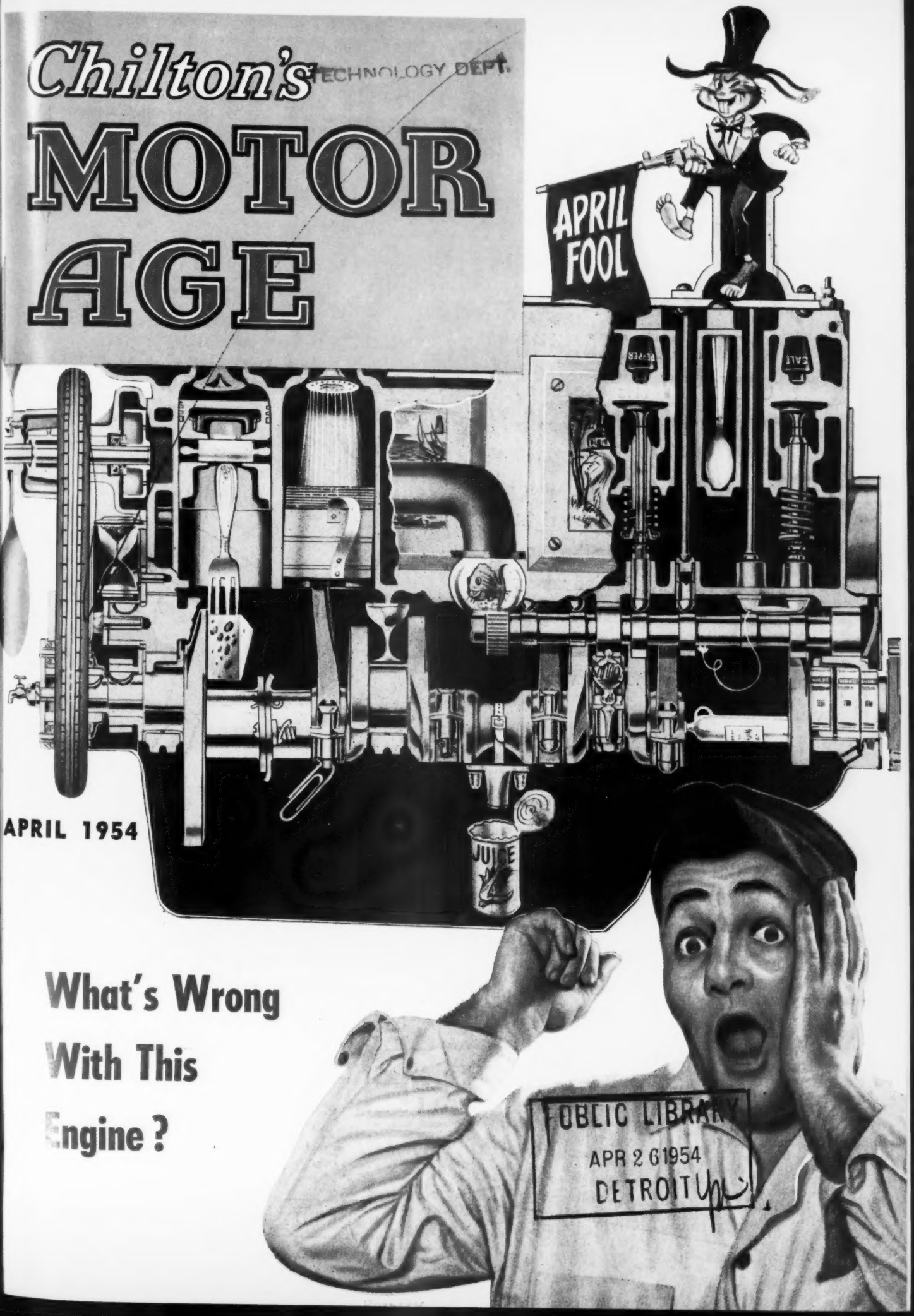
Chilton's MOTOR AGE

TECHNOLOGY DEPT.



APRIL 1954

What's Wrong With This Engine?

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DETROIT

STEEL-VENT'S 2-WAY ACTION DOES IT!

1 EXTRA OIL-CARRYING CAPACITY puts more oil on cylinder walls—for extra lubrication in the wear zone.

2 EXTRA OIL-DRAINING CAPACITY lets excess oil drain back into the crankcase—controls oil pumping.

Two-Way oil control permits the right amount of oil to circulate the split-second it's needed to protect vital friction zones. The Steel-Vent is designed to meter a generous amount of lubrication up to the compression ring wear zone—holding wear to the absolute minimum.

And Steel-Vents can't clog—with every stroke of the piston, Steel-Vents flush away all carbon deposits. You'll never see a clogged Steel-Vent.

In hundreds of thousands of re-ring, re-bore and re-sleeve installations, Hastings Steel-Vent Piston Rings have proved they reduce cylinder wear and stop oil pumping.

HASTINGS

STEEL-VENT PISTON RINGS

Regular or Chrome-Faced

REDUCE CYLINDER WEAR · CONTROL OI

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICH. • HASTINGS LTD., TORONT

Piston Rings, Casite, Caslube, Drout, Oil Filters, Spark Plugs

ANOTHER GREAT—PERMATEX OFFER

This Famous 4-Piece CANNON TOWEL SET FREE!

CANNON TOWEL SET
Each set consists of a luxurious, soft bath towel 22" x 44", a face towel and two wash clothes in matching color and fabric! These sturdy, long-wearing Cannon towels in lovely colors add a bright note to any bathroom.

WITH EITHER OF THESE PERMATEX SPECIAL OFFERS

ONE CASE PERMATEX HEAVY DUTY RADIATOR CLEANER

SPECIAL OFFER No. 246

12 ONE-QUART BOTTLES @ $1.50	$18.00
4-PIECE CANNON TOWEL SET	FREE
	$18.00
DEALER'S DISCOUNT 40%	7.20
DEALER'S NET	$10.80

This cleaner is made specifically for complete cooling system jobs. It dissolves rust, scale and lime quickly and thoroughly. Saves you time and money.

ONE CASE PERMATEX WATER PUMP LUBRICANT AND RADIATOR ANTI-RUST

SPECIAL OFFER No. 247

24 CANS @ $.85	$20.40
4-PIECE CANNON TOWEL SET	FREE
	$20.40
DEALER'S DISCOUNT 40%	8.16
DEALER'S NET	$12.24

Gives complete protection against rust after anti-freeze is removed... Keeps water crystal clear. Stops those squeaks and squeals in the pump quickly and easily. Suggest it to your customers when draining anti-freeze. Make an extra sale.

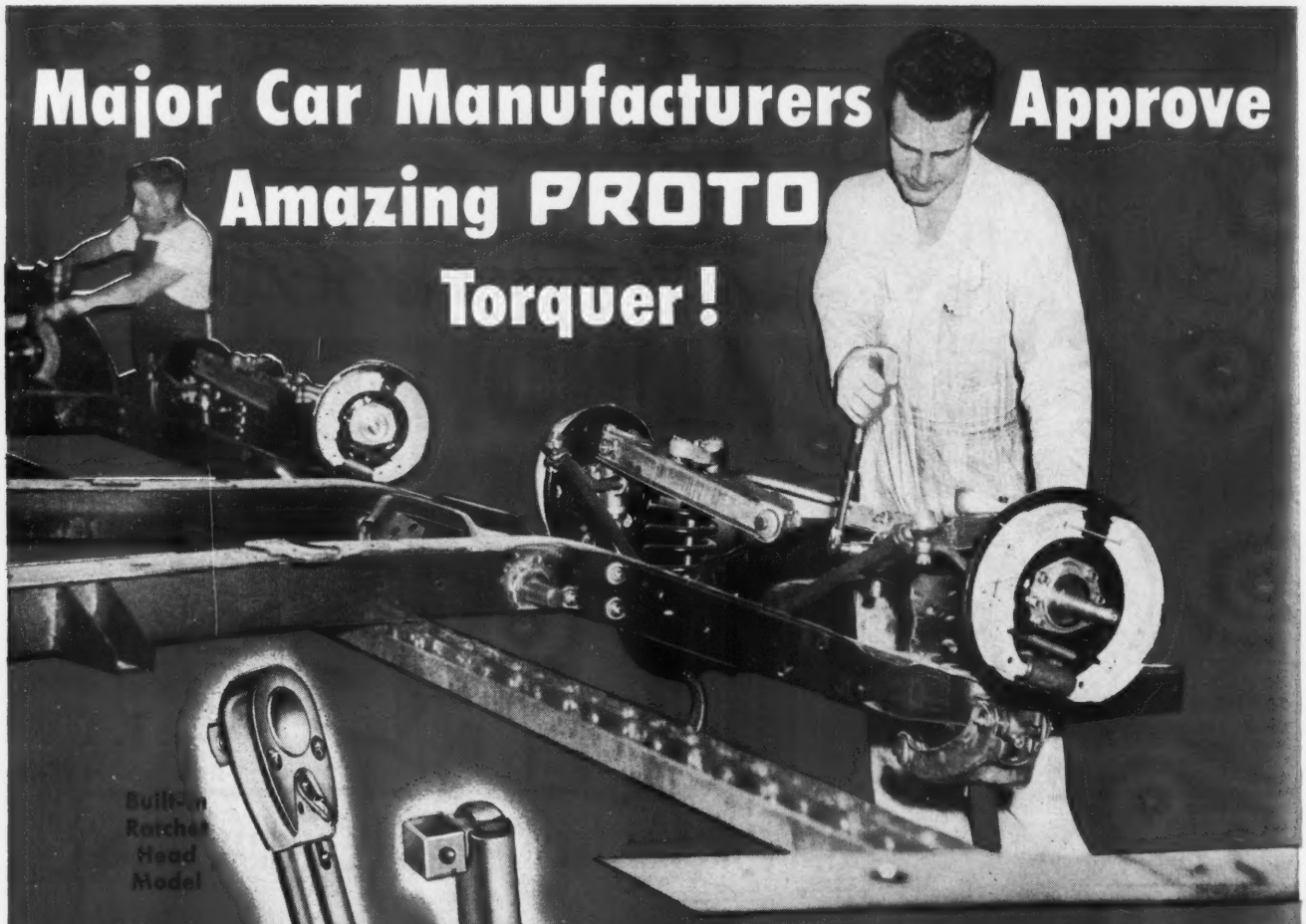
NATIONALLY ADVERTISED IN...
SATURDAY EVENING POST
POPULAR SCIENCE
POPULAR MECHANICS

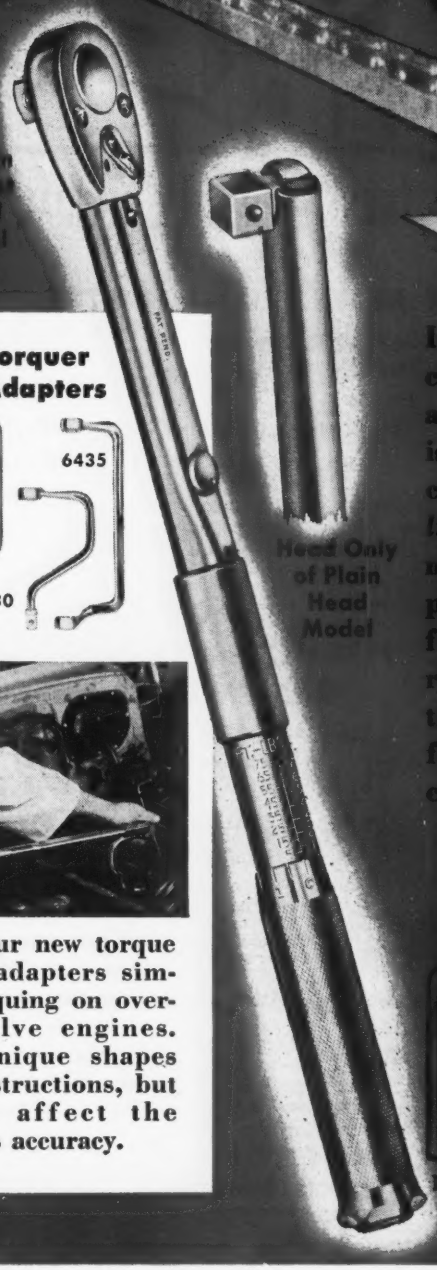
Top notch Permatex products, and an excellent, useful premium... that's what this Permatex Deal means to you. Each Special Offer you purchase entitles you to a set of these Cannon Towels. You can use several. No one ever seems to have enough towels.

Permatex Company, Inc., Brooklyn 35, N. Y.

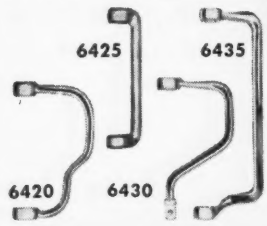
MORE THAN FIFTY CHEMICAL PRODUCTS FOR BETTER AUTOMOTIVE MAINTENANCE

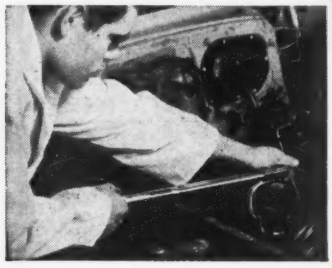
Major Car Manufacturers Approve Amazing PROTO Torquer!





NEW! Torquer Adapters





These four new torque wrench adapters simplify torquing on overhead valve engines. Their unique shapes clear obstructions, but do not affect the Torquer's accuracy.

In your service work, follow the lead of several car manufacturers who made comparative tests and found that the sensational PROTO Torquer is faster, sturdier, and more accurate than indicating types. You'll like its automatic torque-*limiting* release, trouble-free construction, micrometer-type adjustment, and lack of pointers and dials. Various sizes are available in foot-pound or inch-pound models, with plain or reversible ratchet head. Start saving precious time right now by buying the models you need from your PROTO dealer. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2226K Santa Fe Ave., Los Angeles 54, Calif.

PROTO TOOLS®
PROTO means PROfessional TOols

Eastern Factory – Jamestown, N.Y. • Canadian Factory – London, Ont.

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

For THE AUTOMOTIVE SERVICE INDUSTRY

LXXIII, No. 5 April, 1954

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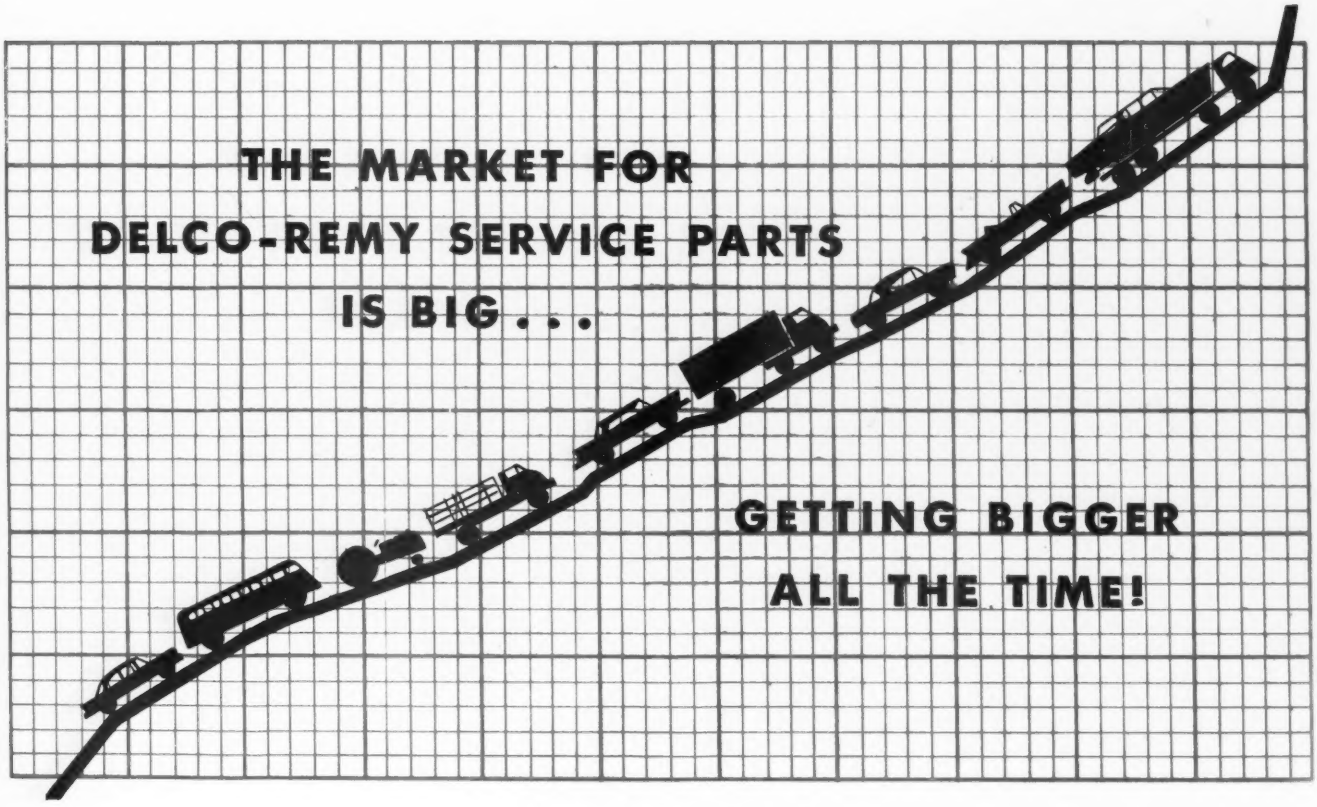
Tune up!

WITH DELCO-REMY ORIGINAL E



Available everywhere for every

The market for Delco-Remy ignition service parts gets bigger and *bigger* as increasing *millions* of Delco-Remy-equipped vehicles run *more millions of miles every day!* With the comprehensive Delco-Remy line you're ready to service *all* of these applications, *old* or *new*, large or small—completely!

Delco-Remy ignition service parts are the *right* replacements for every Delco-Remy application—restoring the original balance in the vehicle's electrical system. Built to the identical high quality standards of original equipment, Delco-Remy ignition service parts include the same famous time-

A GENERAL MOTORS PRODUCT A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

WHEREVER WHEELS TURN OR PROPELLERS SPIN

Tone up!

EQUIPMENT SERVICE PARTS

Delco-Remy application—old or new

tested engineering features—hermetically sealed, oil-filled coils . . . moisture-proof, pressure-sealed condensers . . . sturdy, highly dielectric molded parts . . . specialized contact point designs to meet the needs of every application—old or new.

To keep Delco-Remy automotive electrical systems at maximum operating efficiency, always replace worn parts with Delco-Remy original equipment service parts . . . they're available everywhere through United Motors Service distributors.

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION, ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

BOWER

Finest quality in replacement roller bearings

Bower quality plus Federal-Mogul availability give you the best in roller bearing replacement . . . and the best in service. Bower Spher-O-Honed tapered roller bearings are precision made for rugged service, with better load distribution and quieter operation. When you buy straight or tapered roller bearings — buy Bower for complete dependability!

Ask Your Federal-Mogul Jobber!

BEARING FEDERAL Mogul SERVICE

FEDERAL-MOGUL SERVICE
Division of Federal-Mogul Corporation
DETROIT 13, MICHIGAN

1854 · 1954

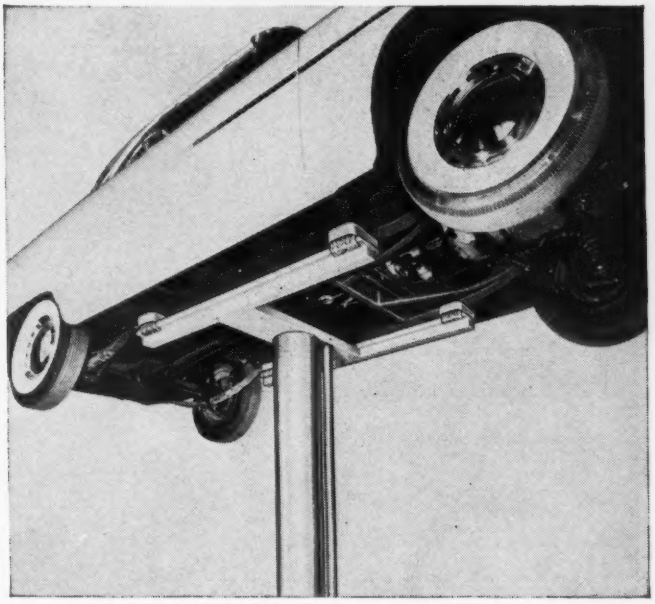
our 100TH year

OF SUCCESSFUL MANUFACTURING EXPERIENCE

NEW

Curtis FRAME LIFT

Makes Under-Car Work Faster and Easier...



This new lift meets a wide range of needs in price and performance. It's ideally suited to all kinds of service station or repair shop use:

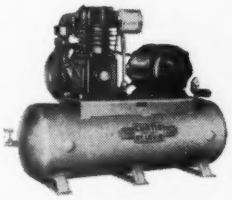
- **MAXIMUM ACCESSIBILITY** . . . reach all points easily for lubrication, inspection, adjustment and repairs. Fast, low-cost under car mechanical work.
- **IMPROVED LUBRICATION** . . . car springs are relaxed and bearings are free — permits full grease penetration at lower pressures.
- **QUICKER WHEEL, TIRE, AND BRAKE WORK** . . . free-hanging wheels facilitate brake work, tire rotation, wheel repacking, and putting on chains.

plus . . . **CLEAR FLOOR SPACE . . . EASY SPOTTING . . . ECONOMICAL INSTALLATION!**

OTHER TYPES OF Curtis LIFTS—

Two Post Shop Lift
Single Post Roll-On Lift
Single Post Free Wheel Lift
Two Post Truck and Bus Lift

Air Compressors



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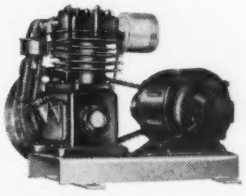

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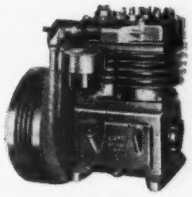

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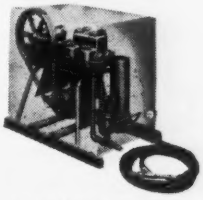
High Pressure Car Washer



1 and 2 Gun Models—
300 Lbs. Water Pressure

CURTIS PNEUMATIC MACHINERY DIVISION *of Curtis Manufacturing Company*

1946 Kienlen Avenue, St. Louis 20, Missouri

756

PACKARD BATTERY CABLE—*Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight . . . are available with* **LEADALLOY** *terminals or leaded brass terminals. Both types are packaged in individual cartons—both deliver top performance—both have acceptance, everywhere.*

It's true—automotive engineers prefer Packard cable for original equipment on cars, trucks, buses and tractors—vehicle owners and repair shops prefer it for replacement service—jobbers and dealers prefer it for its wide *acceptance* and quick *turnover.*

FOREMOST BUILDER OF AUTOMOTIVE WIRING

"I don't need to. My customers agree with me that Packard Cable is tops."

PACKARD IGNITION CABLE—*Long considered the standard of the automotive industry, Packard high-tension cable is original equipment on more cars, trucks, buses and tractors than any other cable. Packard* **FOUR-FORTY** *and Packard* **LAC-KARD** *ignition cables are designed to deliver balanced performance in every application. For dependability on the job, choose Packard!*

PACKARD LOW-TENSION CABLE—*As with Packard's two other products, Packard low-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard's* **249 COMPOUND** *insulation, by every laboratory test and by the test of long, hard usage in the field, has exceptional resistance to heat, oil, chemicals and abrasion.*

Packard
REG. U.S. PAT. OFF.
TRADE MARK

Packard Electric Division
General Motors Corporation
Warren, Ohio

A GENERAL MOTORS PRODUCT **A UNITED MOTORS LINE**

How to build a better business with brake service

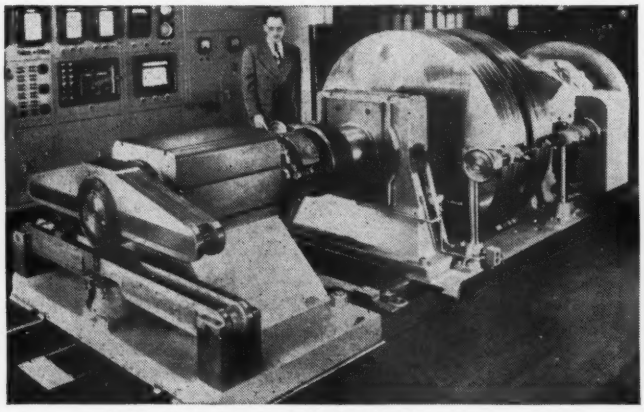
Here are some thoughts on the brake service business that will help you increase your profits

1. "Will I really profit if I look for brake work?"

There's more brake work needed than there are shops to handle it. Establish yourself as a good brake reline man, and you'll find your over-all business increasing. For brake relining leads to the sale of many other parts and services.

2. "What brake lining manufacturer has the most to offer me?"

Raybestos, the maker of America's biggest selling, best-known brake lining, sees to it that all of its contract dealers are constantly supplied with action-getting sales helps, up-to-date service information, and national advertising tie-ins.



3. "What brand of linings can I trust to be trouble-free?"

Raybestos Proving Ground Tested Brake Linings, riveted and bonded. Laboratory dynamometers, including the world's largest, test them exhaustively. They are then given grueling accelerated road tests on all makes and models of cars.

4. "What can I do to give my customers extra confidence in me?"

Use the Raybestos Brake Certificate, packed with all lined shoes and in all boxed sets. This written proof of safety, advertised month after month in the Post and Farm Journal, will give people extra confidence in you, help you build up all ends of your business.

Don't let your customers learn about bad brakes by accident!

Reline with **Raybestos®**

AMERICA'S BIGGEST SELLING BRAKE LINING

GET IT FROM YOUR JOBBER

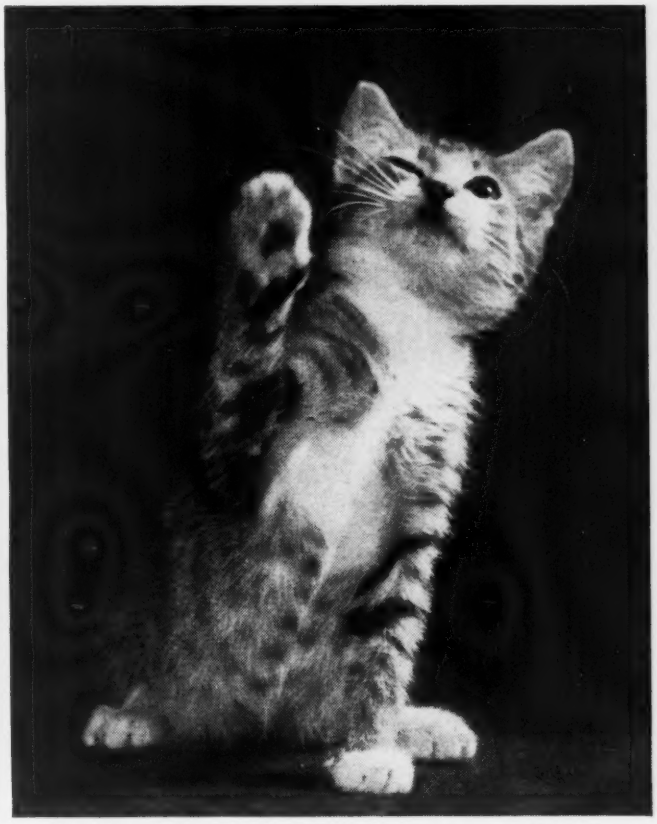
RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.

RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered Equipment • Asbestos Textiles • Packings • Abrasive and Diamond Wheels • Bowling Balls

1. You don't have to be a detective to know today's customer expects honest value from his car.

2. And if he doesn't get first-rate performance, he'll be skeptical of you and your whole organization.

3. But if you want him to speak well of you . . .

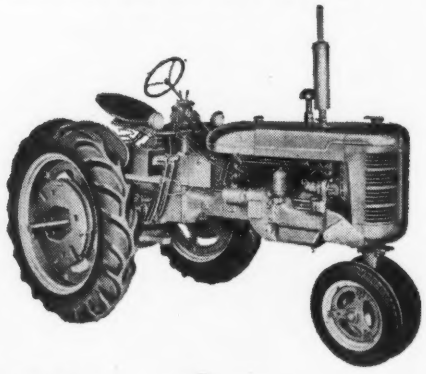


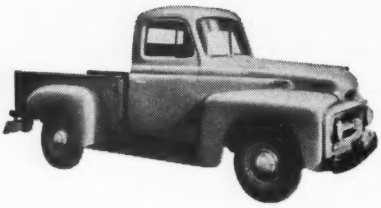
4. Wise him up. Tell him to use "Ethyl" gasoline and get full power from his car. (Of course, the timing should be set for "Ethyl" gasoline.)

© 1954, Ethyl Corporation, New York 17, N. Y.

The farmer's need and by the mile... makes 3 times more effective in

He drives his tractor truck 6,000 miles a year 10,000 miles a year.





Farm machines and trucks as well as cars —only the farmer needs all three.

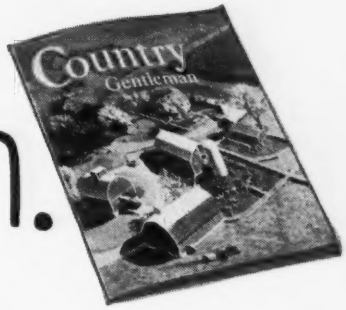
And because farmers *use* their automotive equipment more, they are better customers for fuels, lubricants, tires, parts and accessories.

That is why automotive advertising dollars are *three times more effective* in *Country Gentleman*—the most effective selling force in the great farm market of 11,000,000 cars, trucks and tractors.

for power...by the hour

automotive advertising

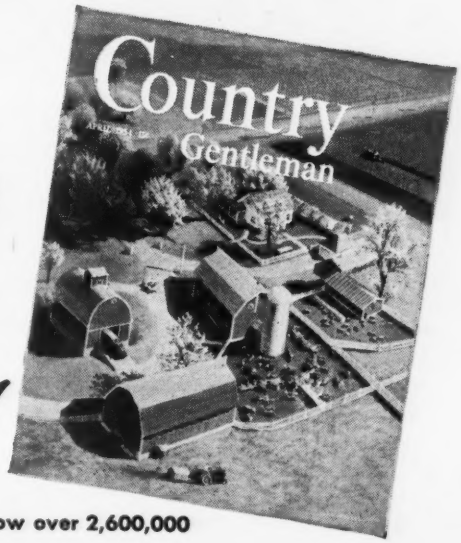
Country Gentleman.



634 hours a year... he drives his

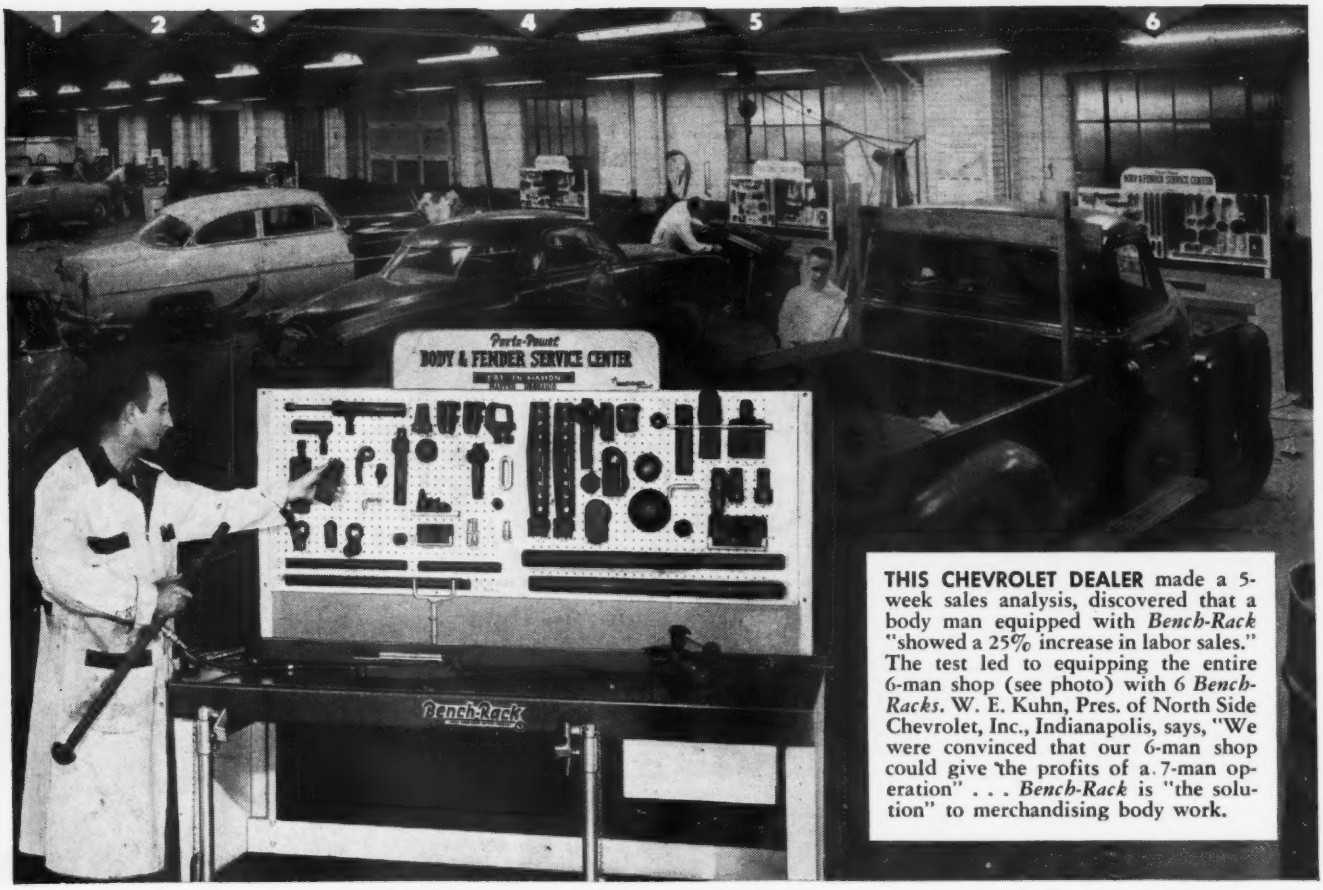
...he drives his car

Greatest selling force in America's greatest automotive market!



A Curtis Publication • Circulation now over 2,600,000

Bench-Rack user reports a "25% increase in labor sales"



THIS CHEVROLET DEALER made a 5-week sales analysis, discovered that a body man equipped with *Bench-Rack* "showed a 25% increase in labor sales." The test led to equipping the entire 6-man shop (see photo) with 6 *Bench-Racks*. W. E. Kuhn, Pres. of North Side Chevrolet, Inc., Indianapolis, says, "We were convinced that our 6-man shop could give the profits of a 7-man operation" . . . *Bench-Rack* is "the solution" to merchandising body work.

New Porto-Power system organizes the body shop for bigger profits

Wherever "Bench-Rack" work centers are given to each man, remarkable increases in productivity — up to 40% — are rolled up. That's because "Bench-Rack" gives each body man all the "Porto-Power" equipment needed to handle the rough-out and alignment work — on or *off* the car. The holding rack helps salvage body sections fast. And — needless walking, borrowing and waiting are eliminated. User history proves Bench-Racks pay for themselves in 4 to 6 months!

Your Blackhawk jobber has a special presentation to show you how and why there's bigger profit with the Blackhawk "Dollars from Damage" Plan. Ask him for it today, or write — Blackhawk Mfg. Co., Dept. P-644, Milwaukee 1, Wis.

"Porto-Power" and "Bench-Rack" are the exclusive (trade mark registered) products of Blackhawk Mfg. Co.

BLACKHAWK®

Bench-Rack includes complete hydraulic equipment

All of the following "Porto-Power" items and auxiliary equipment are necessary for full profits today. This is what "Bench-Rack" contains:

- 10-piece new Bantam Pull Clamp Kit
- 20-piece new 10-ton Pull Clamp Kit
- 16 pieces of new Bantam Lock-on Tubing
- 15 pieces of new 10-ton Lock-on Tubing
- 20 additional Bantam and 10-ton attachments
- 4 hydraulic rams, 2 pumps, 1 spreader
- Heavy-duty steel work bench
- Body section holding fixtures
- Improved door bar
- Silhouetted tool panels
- Individual service sign

NOW! Production Problems Licked! Immediate Delivery!

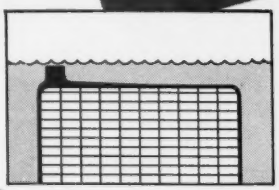
Willard

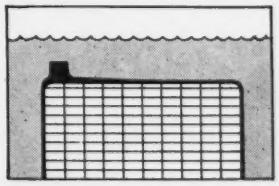
Weathermaster with

Climate Control

WORLD'S FIRST ADJUSTABLE BATTERY

ADJUSTS ITS POWER AT THE TURN OF A KEY!





IN COLD WEATHER

With key turned to "Winter" position, water level *automatically* stays low, as shown in diagram. Increase in acid gravity steps up strength of electrolyte...gives far greater power for quick, sure starts in coldest winter weather.

IN HOT WEATHER

Turning key to "Summer" position *automatically* permits higher water level . . . reduces acid gravity . . . keeps battery cooler . . . increases resistance to battery-killing overcharge in hot weather driving.

The One Battery that's EASY TO DEMONSTRATE and EASIER TO SELL!

Willard Weathermaster is the first battery in the world that gives you a tangible feature to demonstrate to your prospective battery customers—Key-Operated Climate Control. Make the most of this BIG profit opportunity!

REGARDLESS OF THE LINE YOU'RE HANDLING...

Get the Facts!

Call your Willard Distributor NOW!

NOW! NATIONAL

order-

Small Order-matic Cabinet: Front wheel seals for all popular cars

Large Order-matic Cabinet: Front and rear wheel seals, for garages, brake shops

new

NATIONAL ORDER-MATIC CABINETS

Large, easy to read identifying numbers tell at a glance whether your stock is complete—or dangerously low on popular numbers. You get the cabinet, plus complete interchange catalog, free with the stock. The unmarked "extra" bins in all National Order-matic cabinets are for popular wheel bearings you use in quantity.

matic

OIL SEAL SERVICE STOCKS

You'll never again have to watch overhead mount while a customer's car waits for oil seals. New National Order-matic Oil Seal Service Stocks insure the right seal on hand when needed. And—again to save you time, trouble and cost—they warn you the minute you're running low on popular oil seals.

National Order-matic Cabinets have each bin identified with the proper seal number. You can check stock at a glance, and speed ordering; stocks stay neat, you find the right seals instantly.

Get a National Order-matic Service Stock in your shop today! Then you'll have seals you need, when needed. Two stocks: a fast moving front wheel selection for lube stations, and a large front and rear wheel stock for garages and brake shops. The big red all-steel cabinet, plus complete interchange information, is FREE with the stock.

CALL YOUR JOBBER TODAY FOR YOUR NATIONAL ORDER-MATIC SERVICE STOCK

(If you already have a National Oil Seal Cabinet, your jobber's on the way to install the Order-matic feature FREE!)

"Whenever you take out an oil seal, ALWAYS replace it with a NEW one"

Support this industry-wide program

NATIONAL MOTOR BEARING CO., INC.
General Offices: Redwood City, Calif.
Plants: Redwood City, Calif.; Van Wert, Ohio

2983

NATIONAL
OIL & GREASE SEALS
O-RINGS SHIMS
Approved original equipment for all cars, trucks, buses and tractors

NOW... A POWER INSTALL ON ANY

The new Bendix passenger car power brake!

The passenger car power brake market is wide open for you! Yes—with the new, compact, easy-to-install Bendix* Passenger Car Power Brake—you can cash-in on this fast-moving, big-profit item that up to now has been only factory installed on some makes of new cars.

Engineered for quick, easy installation on every postwar car, the Bendix Passenger Car Power Brake offers you a real profit opportunity in a ready-made market. Installation kits are complete in every detail. No special tools or equipment needed—no extras to buy. Inventory requirements are low. Sales-packed national advertising and sure-fire merchandising back you up. Get the full story today from your local Bendix Central or Warehouse Distributor. Or write direct to Service Sales Department at Bendix, South Bend, Indiana.

JUST 3 SIMPLE CONNECTIONS

1 MOUNT HYDROVAC (POWER BRAKE UNIT)
Attach mounting bracket and install Hydrovac unit in specified location.

2 CONNECT HYDRAULIC LINES
Attach Hydrovac hydraulic lines to master cylinder and wheel cylinders.

3 CONNECT TO VACUUM
Install Hydrovac vacuum line to source of vacuum.

A Product of the World's Leading Brake Manufacturer

GET THE L-O-N-G PROFIT ON CARBURETORS . . . REPLACE INSTEAD OF REPAIR WITH . . .

You can sell Stromberg* Carburetors the same way you sell batteries, oil filters, spark plugs, etc. Special Starter Stock of 3 Stromberg carburetors—Ford, Chevrolet, Plymouth—covers over 12,500,000 cars or 1 out of every 4 you service. Why tie up your money in costly inventory? Sell carburetors the new, streamlined, modern way with Stromberg—*the replacement carburetor line—a complete line for passenger cars and trucks.*

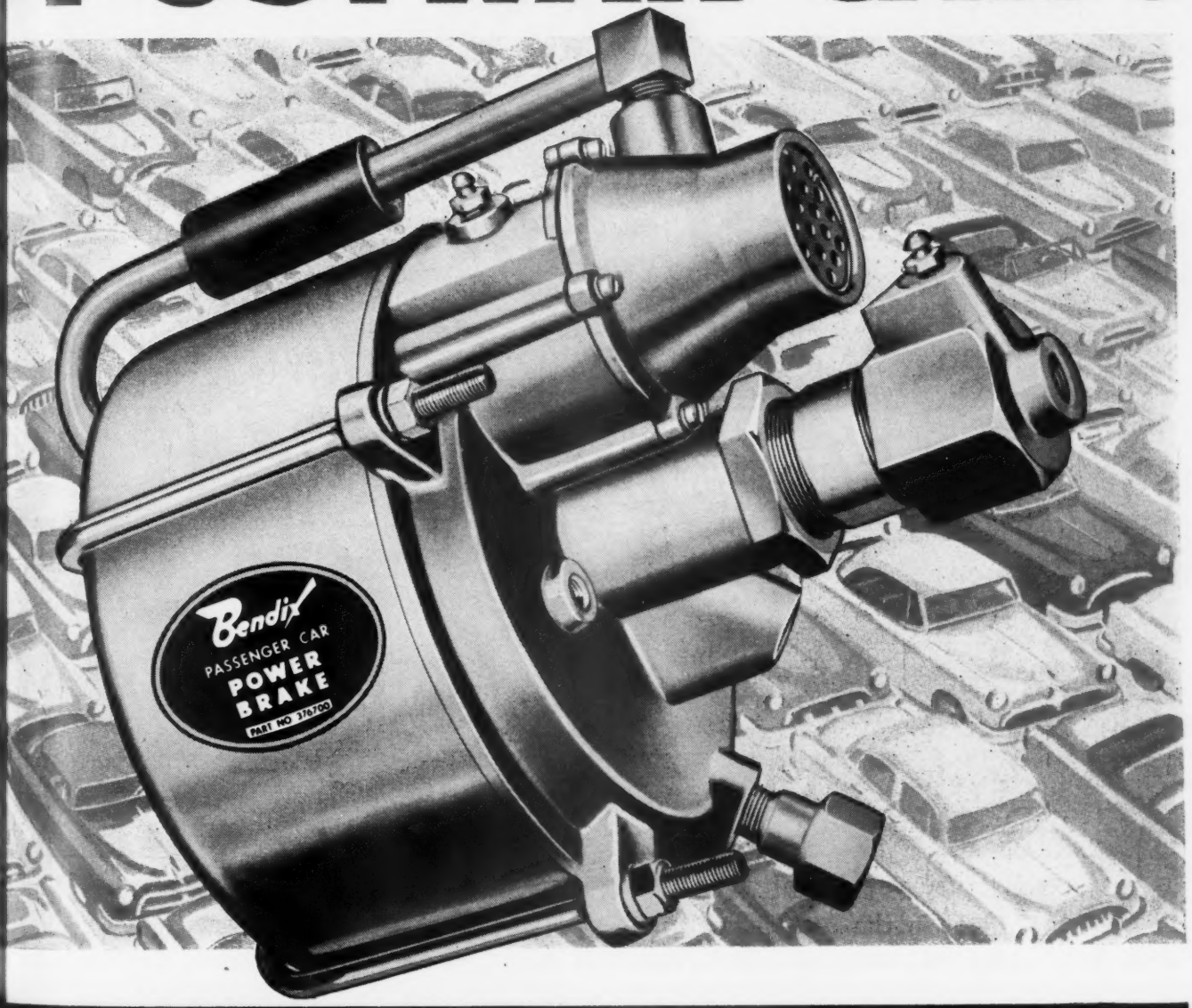
*REG. U.S. PAT. OFF.

A BIG MARKET—24,000,000 prospects a year. Every sale a big sale. You make more by replacing than you make on parts and labor of a carburetor repair job.

FASTEN TURNOVER—Streamlined list of models for every make and year means small, single-line inventory for you. Your money turns over faster.

SATISFIED CUSTOMERS—By installing a new Stromberg, your customer gets better performance and economy than from a repair job. You build good will with each sale.

BRAKE YOU CAN
POSTWAR CAR !



CLEAN METAL PARTS THE SAFE, SURE, EASY WAY . . . USE

Bendix METAL*clene*

Quickly removes dirt, grease, grime, grit, carbon from all metal parts. Has longer life, lesser evaporation rate than water, greater cleaning power and higher percentage of active ingredients. Non-toxic, non-explosive. Works at room temperature. No need for hand scraping or brushing.

Bendix Products Division

THE NAME **Bendix** AVIATION CORPORATION MILLIONS TRUST

STROMBERG CARBURETORS—Cars, Trucks, Industrial • **BENDIX VACUUM POWER**—Power Brakes—Passenger Cars, Trucks, Trailers • **HYDRAULIC CONTROLS**—Power Steering—Passenger Cars, Trucks, Trailers, Buses, Industrial, Agricultural • **BENDIX BRAKES**—Factory-New Lined Shoes, Lining Segments, Repair Parts • **BENDIX* METALCLENE**—All-Purpose Parts Cleaner.

BENDIX PRODUCTS DIVISION SOUTH BEND, INDIANA

Export Sales: Bendix International Division, 205 E. 42nd St., N. Y. 17, N. Y. Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada

FEDERAL-MOGUL ENGINE BEARINGS...

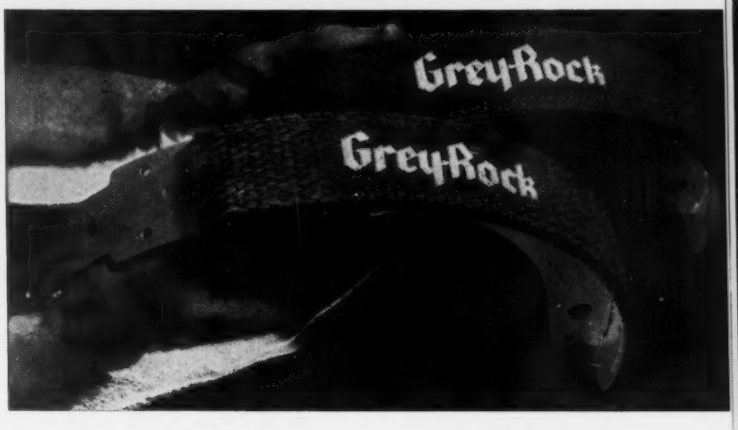
FIRST IN PREFERENCE

Every survey shows that Federal-Mogul is the *best-known brand* of engine bearings. It is also the most complete line, and the most readily available. Good mechanics recognize and appreciate Federal-Mogul's "service slant." Overhauls go easier and faster with Federal-Mogul engine bearings.

FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

"You might have killed us! Don't you have any brakes on that car?" Here's a prospect for your service. Grey-Rock national advertising directs him to *you* for brake inspection every 5,000 miles and reline jobs when needed.

When you're a Grey-Rock dealer, you escape complaints and pile up profits — with Grey-Rock *balanced* linings. For the exclusive Grey-Rock *balance* principle equalizes brake wear and assures quick, safe stops. This can't be done with ordinary high and low friction materials; it's the result of Grey-Rock's using *many* different linings in combinations *engineered* for each make and model. This is a distinctive Grey-Rock feature!



Grey-Rock also combines distinctive *woven-molded* linings in balanced Braksets and Trucksets for specially severe brake requirements of certain makes and models. Where used, woven-molded combinations provide far better brake action than molded linings alone. In other sets, special molded types are used where all-molded combinations give best results. This, too, is a distinctive Grey-Rock feature.

See your Grey-Rock jobber for

FACTORY-BONDED SHOE EXCHANGE

It's the lining that counts

Every piece branded for your protection

★

Consistently advertised in the

POST *and* **Country Gentleman**

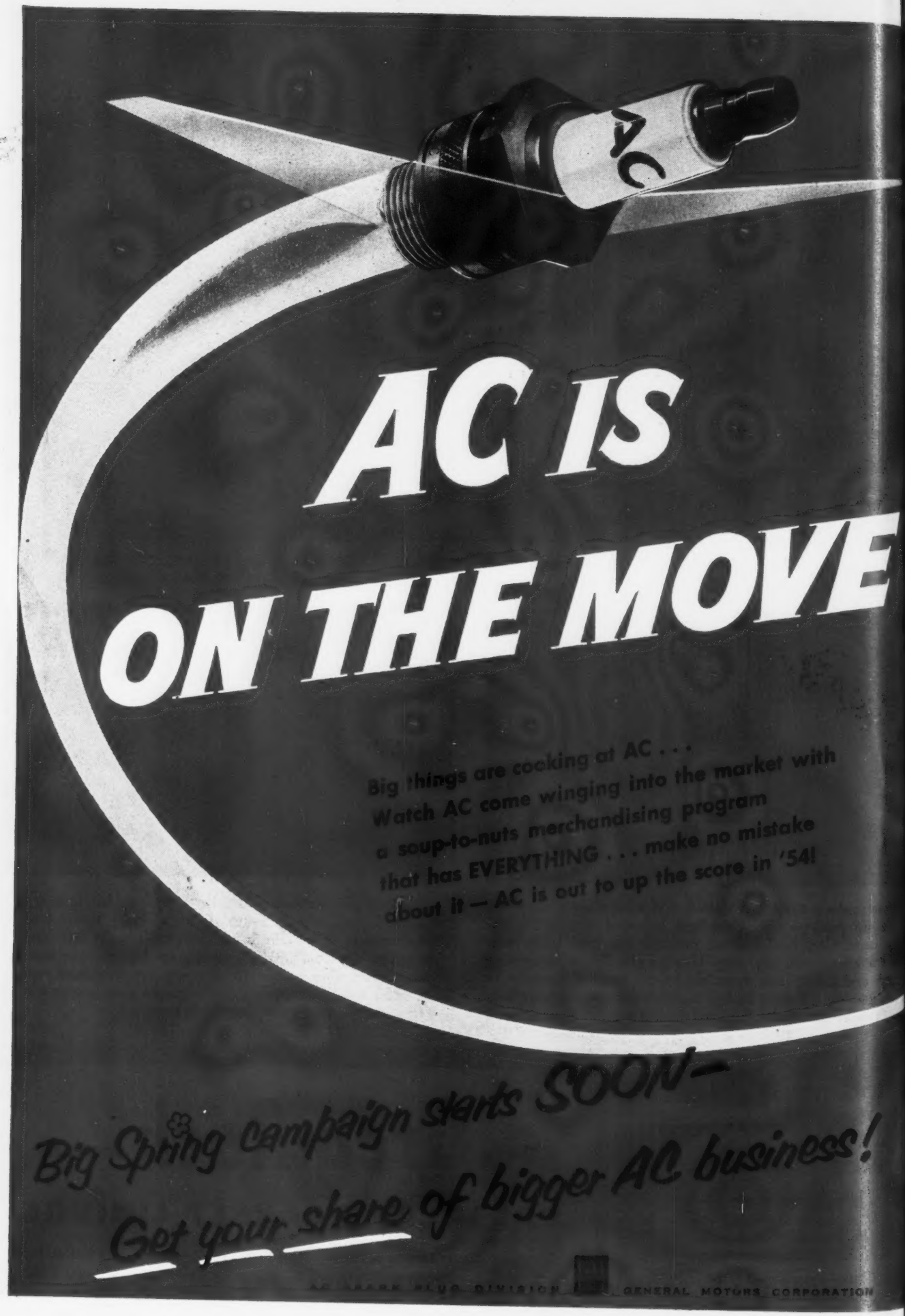
Only Grey-Rock *makes*

BALANCED BRAKSET LININGS

RM

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., **MANHEIM, Pa.**

RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings
Fan Belts • Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products
Rubber Covered Equipment • Asbestos Textiles • Packings
Abrasive and Diamond Wheels • Bowling Balls


AC
AC IS
ON THE MOVE
Big things are cooking at AC . . .
Watch AC come winging into the market with
a soup-to-nuts merchandising program
that has EVERYTHING . . . make no mistake
about it — AC is out to up the score in '54!
Big Spring campaign starts SOON—
Get your share of bigger AC business!
AC SPARK PLUG DIVISION GENERAL MOTORS CORPORATION

New action-packed advertising!

Hang onto your hat – AC is hitting the boards on highways coast to coast – plastering every important market area with smashing copy that lets motorists know, in short order, what a new set of AC Spark Plugs will do for their cars! The tremendous AC national magazine advertising campaign in all the big-time publications ties right in with this a hundred percent! Be sure you're in on it!

AC SPARK PLUGS

New sales-making merchandising!

No one, but no one, beats AC at putting together merchandising programs that pack a wallop where the wallop does the most good—at the *point-of-sale!* This spring program is no exception – window trim, pump stickers, airplanes for kids—AC has thought of *everything!* Hop on the band wagon —AC is really rolling!

"..SURE DOES BRING OUT

WALKER'S "PROVING GROUND" is a specially equipped free-field chassis dynamometer . . . built by their own engineers. It's the only one of its kind used for exhaust system test work.

THE PATENTED LOUVERED TUBE I am examining is part of every Walker Silencer. This exclusive Walker feature swirls the gases all in one direction . . . and is used in many sizes and louver spacings to produce the necessary results.

From the driver's seat of a new high horsepower passenger car mounted on the "dynamometer proving ground," I put Walker Silencers through their paces . . . from a standing start to full top speed. Matching every driving condition that could affect muffler performance . . . uphill, downhill, fast, slow, under full load, or just cruising along . . . I kept my eyes on the tell-tale dynamometer dials. They told me the story . . . *accurately* as only a scientific instrument can. There is no doubt about it . . . Walker Silencers *do* bring out the Go-Factor of these new automobiles . . . their ability to get into quick motion—at the traffic light or on the open road.

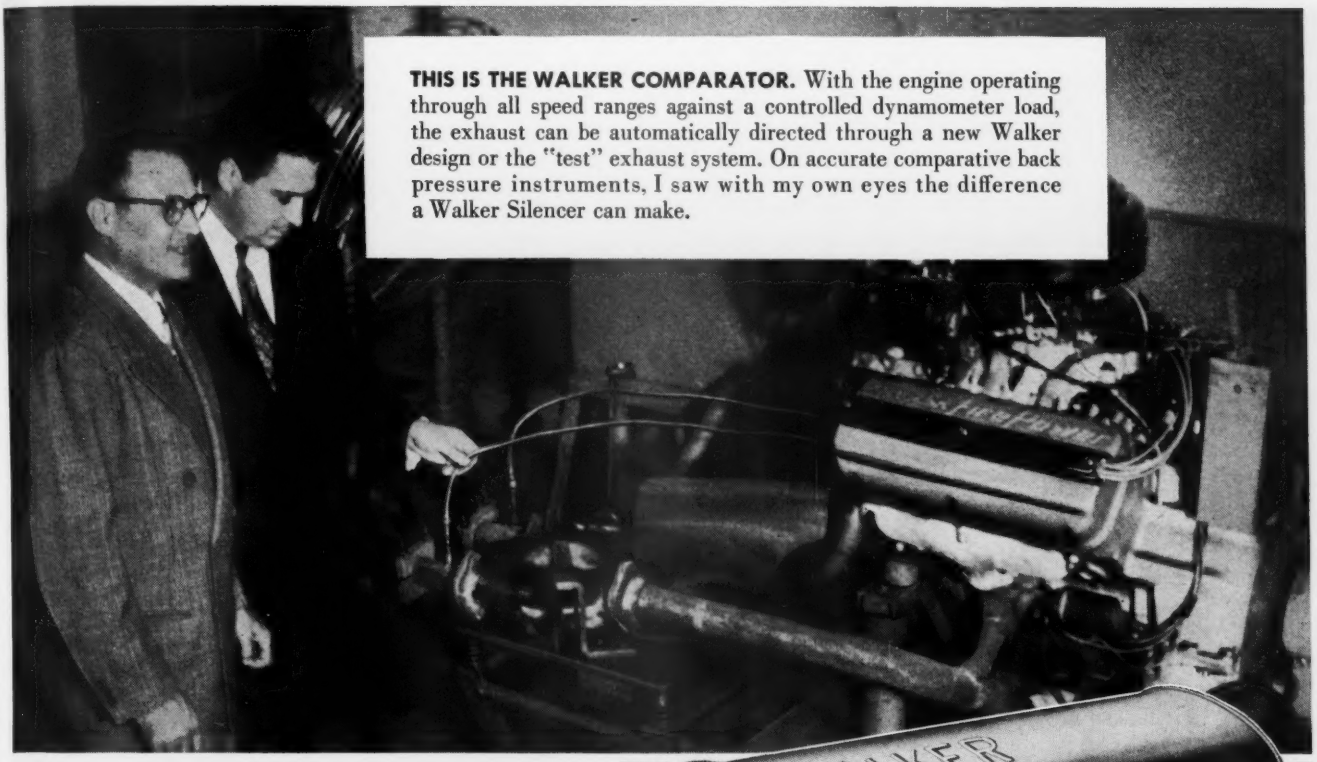
To get a true "reading" on exhaust system performance, it is necessary to actually test a muffler on the vehicle—and with the engine on which it is to be installed.

And that's when I found out that designing and engineering a modern exhaust system is no job for an amateur. It takes the finest of laboratory equipment to give it the necessary precision performance. But most important—it takes "know-how" . . . the kind of "know-how" that can come only with years of experience with engines and their exhaust characteristics.

I know why "Precision Tuned" Silencers *really do* bring out the Go-Factor . . . faster *get-away* at the traffic lights . . . faster *get-ahead* on the straight away . . . greater power reserves for *safer passing* and hill climbing. I have seen the proof with my own eyes. I have heard the proof with my own ears. I have put Walker Silencers through their paces with my own hands—and I can say to you in all sincerity . . . Walker really knows what to do—and they are doing it.

THE GO FACTOR!"

..... SAYS *Wilbur Shaw*



THIS IS THE WALKER COMPARATOR. With the engine operating through all speed ranges against a controlled dynamometer load, the exhaust can be automatically directed through a new Walker design or the "test" exhaust system. On accurate comparative back pressure instruments, I saw with my own eyes the difference a Walker Silencer can make.

YOU CAN ACTUALLY HEAR THE DIFFERENCE in shell noise between an asbestos lined Walker Silencer and "trick" shell constructions which claim to control the violent explosions from these new engines—as Walker engineers shift the exhaust from one system to the other on the comparator. Walker uses asbestos-treated shells wherever necessary to control high frequency shell and pipe vibration noise.

NOW...more than ever

WALKER

Precision Tuned

SILENCERS

make the difference!

As Advertised in "LIFE" and "POPULAR SCIENCE"

WALKER MANUFACTURING COMPANY OF WISCONSIN • RACINE, WIS.

"We're batting a thousand this month"

"Partner, we really hit the jackpot. I think nearly every product we carry, from gas to plugs, is advertised either in Farm Journal or Town Journal this month."

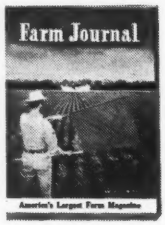
Manufacturers who support their dealers through advertising in Town Journal and Farm Journal—the Country-Side Unit—get enthusiastic approval. Dealers say it makes automotive products easier to sell. No wonder!

More than half the nation's people live in Country-Side America—in towns under 10,000, in crossroads villages, on farms. These people own over half the cars, account for well over half the service business, and support 60 percent of the gas stations, 50 percent of the TBA dealers, and 62 percent of the car dealers in the nation.

Over 4,350,000 of these families read Town Journal and Farm Journal and buy what they see advertised there.

That's why more and more advertisers are using the Country-Side Unit, the combination of Farm Journal and Town Journal, to sell automotive products. Farm Journal is America's largest, most successful farm magazine. Town Journal is the *only* dual appeal magazine devoted exclusively to Country-Side family interests. Together they reach and influence more of the best customers in America's biggest automotive market than any other publication.

The Country-Side Unit also gives dealers what *they* want: coverage among their own best customers and prospects like a local newspaper. If you want to find out why this is so, write Dealer Service Department, Farm Journal, Inc., Philadelphia 5, Pa., for the free Country-Side Analysis Folder for your territory.



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THE COUNTRY-SIDE UNIT...

4,350,000 of the best families concentrated in America's biggest automotive market

SELLS THE WHOLE COUNTRY-SIDE MARKET

To give the best service

ON PLYMOUTH • DODGE • DE SOTO
CHRYSLER • DODGE TRUCKS

recommend and install → the best of parts

PLYMOUTH · DODGE · DE SOTO · CHRYSLER

MōPĀR

TRADE MARK

CHRYSLER CORPORATION ENGINEERED

PARTS

CHRYSLER CORPORATION - PARTS DIVISION

Good service attracts and *keeps* customers. You give the *best* service on Chrysler Corporation cars and trucks when you install MoPar parts and accessories.

That's because MoPar parts are made of the finest materials and are designed to the highest standards by Chrysler Corporation engineers. They fit better, work better, last longer, and they're easier, faster to install.

Give your customers the *best*. Recommend and install MoPar parts—famous for quality and performance.

MōPĀR means genuine Chrysler Corporation parts and accessories

PARTS DIVISION • CHRYSLER CORPORATION • DETROIT 31, MICHIGAN

Protect yourself and your trade with "Flex-S" steel oil rings—"heart" of BUICK ring sets

FACTORY ENGINEERED

HIGH-CARBON STEEL—with continuous Flex-S union and exclusive strut support, assures uniform contact and tension all around—even in tapered or out-of-round bores.

OPEN DESIGN—with offset sectors and square-ground ends, provides controlled lubrication and oil drainage.

EASY TO INSTALL—snaps into place, hugs the groove, Granoseal prevents scuff and score during break-in.

BUY THEM FROM YOUR BUICK DEALER—full discount, full information—to be *sure* you have the right "makings" for satisfactory service.

Did You Know that 19% greater visibility is provided by the new panoramic windshields of all 1954 Buicks?

ENGINEER APPROVED ACCESSORIES

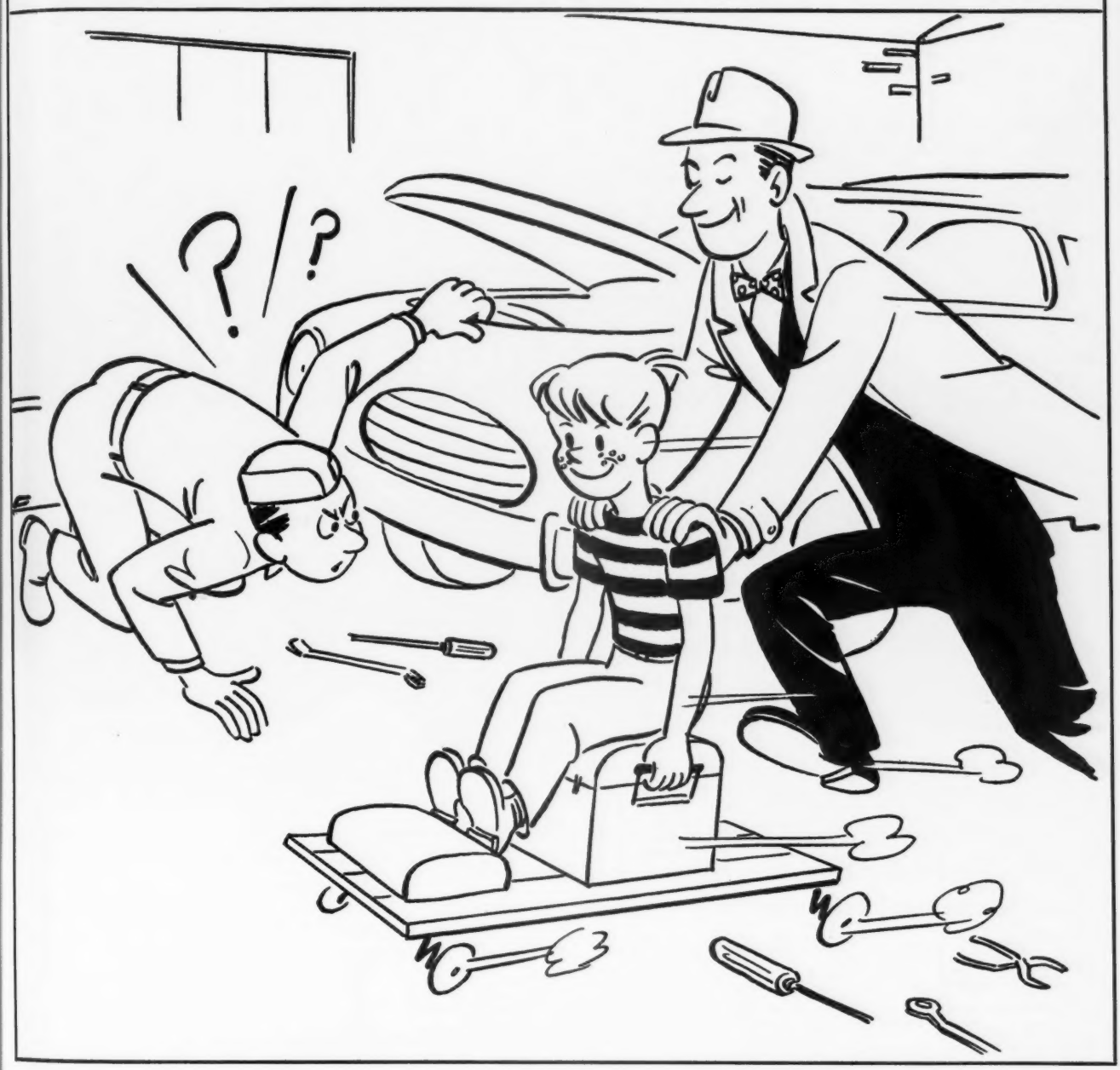
BUICK

FACTORY ENGINEERED PARTS

BETTER WORK WITH FACTORY ENGINEERED PARTS

SEE YOUR BUICK DEALER

It takes all kinds of customers...



...but they all want the best. And when it's bearings, *just tell 'em it's TIMKEN®!*

Customers keep coming back when given top flight service and when they know you use the best replacement parts. So make sure you point to the trade-mark "Timken®" on every new tapered roller bearing you install. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

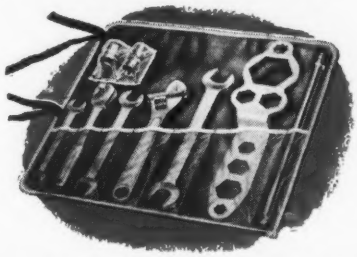
NOT JUST A BALL ◯ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◯ AND THRUST →◯← LOADS OR ANY COMBINATION →◯←

PUTS YOU A STEP AHEAD

ENGINEERED FILTRATION AT A PROFIT

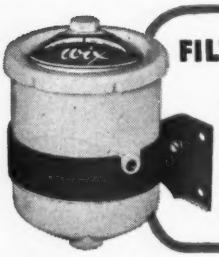
WIX PROVIDES COMPLETE COVERAGE IN OIL FILTER CARTRIDGES—PLUS THE TOOLS TO SELL THEM!

Time is Money . . . anything that enables your Shop to do more in fewer minutes is the shortest route to profits. That's why the complete WIX Line is a money-maker for you. WIX provides *complete coverage* in Oil Filter Cartridges, the outstanding Wall Chart in the industry, and the sensational, new Tool Kit . . . everything you need to make Filter servicing simple, sure and *fast.* Moreover, WIX assures the utmost in filtration, with WIXITE, the Resilient Density Filtrant for by-pass systems, and PORO-SITE, the new, pleated paper Filtrant for full-flow systems. These superior filtering media spell longer life for oil and engines, economy and satisfaction for your customers.



WIX OIL FILTER SERVICE TOOL KIT FITS ALL FILTERS, EVEN THOSE HARD-TO-GET-AT MODERN CARS.

WIX FILTER IDENTIFICATION CHARTS PICTURE AND DESCRIBE ALL POPULAR FILTER MAKES AND MODELS.



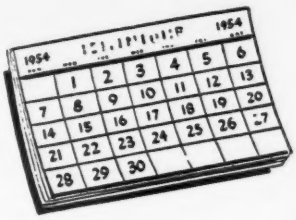
FILTER-PAX-Especially for Car Dealers

This cost-cutting Service consists of 100 lb. shipments of WIX Filters and Cartridges in standard Cartons, individually boxed and complete with fittings and instructions, sent direct to you from the WIX Factory or nearest Warehouse. Special, low FILTER-PAX Prices spell added profits for you. Get the details today.

WIX GIVES ME COMPLETE COVERAGE TO SERVICE EVERY CAR THAT COMES INTO THE SHOP!

WIX CORPORATION • GASTONIA, N. C., U. S. A.

Reserve your anti-freeze NOW ...and let Du Pont guarantee delivery...

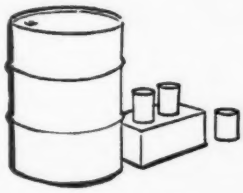


Whenever you need it

The Du Pont plan is designed to fit your convenience. Reserve your "Zerone" and "Zerex" *now*, take delivery as you need it—*there's no need* to load up in advance of the season.

Wherever you need it

Du Pont's unexcelled, coast-to-coast distributor organization guarantees prompt, dependable delivery from your local source—whenever and however you want it.



However you need it

Whether you need Du Pont anti-freeze by the case or carload—in whatever container size you prefer . . . you'll get it when you need it—so reserve it now.

—AND HERE'S WHY YOU'LL MAKE MORE PROFIT SELLING THEM!

When you stock "Zerone" and "Zerex," you can forget about everything but profits; they're America's largest-selling anti-freeze team. You have Du Pont "Anti-Freeze Week" working for you— the hottest profit-making promotion in the business.

And you have these exclusive sales advantages:

Both "Zerone" and "Zerex" contain an exclusive *non-separating* chemical rust inhibitor which: 1) Prevents rust formation in the cooling system; 2) Has high *reserve alkalinity* to neutralize destructive cooling system acids; 3) Has *detergent action* which prevents already present rust particles from clogging the cooling system.

DU PONT "ZERONE"®
. . . America's great money-saving anti-freeze value.

DU PONT "ZEREX"®
. . . the outstanding one-shot, winter-long anti-freeze.

Easy-to-recognize... Customer-preferred tamperproof cans

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

California
"We have used KromeX Ring Sets in all types of units with fine results. A 1951 Chevrolet taxi was driven over 90,000 miles after reringing with KromeX at 55,000. Oil consumption was still satisfactory and top cylinder wear did not exceed .010 in a total of 145,000 miles. Sealed Power KromeX Ring Sets give top performance in oil control and reduced cylinder wear."
Jack George, Service Manager, Chino, California

Michigan
"We recently installed a KromeX Ring Set in a straight 8 which was burning a quart of oil every 40 miles. After the second oil change at 1200 miles, oil consumption stopped. Power, performance, and gasoline mileage increased way beyond our expectation. This is only one of many KromeX jobs we have done, and to date we have never experienced a KromeX Ring Set failure."
W. R. Rodberg, Pingel & Rodberg, Niles, Michigan

New Jersey
"In my shop we install an average of two KromeX Ring Sets every week and I have yet to have a come-back. This includes trucks as well as cars. Seating is not a problem, either, as KromeX Ring Sets always seat fast enough to give complete customer satisfaction. Thanks for a quality product I can depend on 100%."
Phil Hornung, Hornung Automotive Service
West Orange, New Jersey

Read what Mechanics say about

Sealed Power KromeX

Piston Ring Sets

Missouri
"There is nothing but the best we can say about KromeX Ring Sets, which we have been using for the past year with wonderful results. Less drag, smoother running engines and a noticeable increase in gasoline mileage. We would definitely recommend Sealed Power KromeX Ring Sets to any and all who are interested in doubling piston ring life with less wear on cylinder walls."
E. B. Vawter, Vawter Brothers Garage, Marshall, Missouri

Massachusetts
"Recently we installed a Sealed Power KromeX Ring Set in a 1950 straight 8. The owner was a very fussy customer, and several weeks later he told us where he used to get 12 to 14 miles per gallon, he now gets 17. This car used 1 quart of oil in the first 400 miles, and none in the next 800."
George W. Chartrand, Joseph H. Chartrand
Hudson Auto Parts, Hudson, Mass.

North Carolina
"After approximately two years of installing Sealed Power KromeX Ring Sets, we are confident that they are a great improvement in the engine of today. We have experienced no difficulty, and when we install KromeX Ring Sets, we know we are giving our customers the best that money can buy, plus long, pleasant miles of additional service."
W. C. Alford, V. P., Yates Auto Service
Raleigh, North Carolina

FACTORY SEATED FOR FAST BREAK-IN!

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS! BEST IN OLD CARS!

Sealed Power Motor Parts • The Heart of the Engine • Rings, Pistons, Pins, Sleeves, Valves, Water Pumps

"I Cover the Autofront" .....by Len Westrate

Chrysler Conjures A Whirlwind

CHRYSLER'S GAS TURBINE IS A GREAT STEP FORWARD, but it still is a long way from becoming practical for automobiles. While it apparently overcomes two problems--high fuel consumption and excessive exhaust heat, there still are many problems.

IT IS MUCH NOISIER THAN A CONVENTIONAL ENGINE. Also the cost is prohibitive, largely because of the high temperature alloys which must be used. Another big problem is the free-wheeling effect, which eliminates engine breaking and makes it impractical for use with present brake designs. It would require much larger brakes with forced cooling or perhaps an entirely new brake design.

Prices Down On New Accessories

ON THE PLUS SIDE, fuel costs might be lower because it will burn almost any petroleum fuel, from crude oil to gasoline, with about equal efficiency.

NASH PULLED THE RUG OUT from at least one competitor with its $395 tag on its combined heater-air conditioning unit. We hear that Pontiac was about ready to announce a price cut on its unit, an air conditioner mounted entirely ahead of the dash, when Nash dropped its bombshell. Ford is understood to be very much interested in the Nash combined unit as an accessory package.

PLYMOUTH NOW OFFERS POWER BRAKES as an option at $36.55. The unit is the same as recently announced by Dodge, which has cut the price back to the Plymouth level from $42.20.

NADA Asks For Territorial Protection

TERRITORY PROTECTION CLAUSES may come back in one form or another in new car dealer franchises. NADA and factory officials would like to reinstate them and will do so if they can get an OK from the Justice Dept. Recent widespread bootlegging of new cars has brought the matter to a head. Such provisions were dropped in 1949 on the opinion that they were illegal.

INCIDENTLY, THE FACTORY WARRANTY DOES NOT TERMINATE with a bootleg sale. H. H. Curtice, G. M. president, made that clear when he said in Chicago recently that GM will stand back of its products wherever they are sold. The same goes for other companies.

The Fight For Third Goes On

BUICK IS TURNING ON THE HEAT to set the sales lead over Plymouth in the race for third place in the industry this year. Buick held a production edge of nearly 30,000 units at the first quarter mark. It is going all out on demonstration rides this month, with a goal of 1.5 million rides, or an average of six a day for each retail salesman.

Factories Cite The Independent's Role In Service

CAR MAKERS LOOK AT THE INDEPENDENT REPAIR OPERATOR as an important, although unofficial, member of its service team. The growth of car population has far exceeded the capacity of franchised dealerships to service all the cars on the road, and it is important from a customer relations standpoint to have available a wide network of repair shops where service is available. Chevrolet figures that independent repair shops take care of two Chevrolets for every one serviced in a dealership.

More Merger News

NEXT AUTOMOTIVE MERGER NEWS is likely to include Reo. The company is known to be dickering, but there is nothing yet to indicate which one of many rumors is authentic. Most likely deal is a tie-in with American Motors Corp.

Chrysler Reorganization News

THERE IS A LOT OF BEHIND-THE-SCENES ACTIVITY AT CHRYSLER CORPORATION involving reorganization of both management and personnel. Recently announced plans for decentralizing authority are only part of the picture. A much more drastic overhaul of the organization is developing but will take considerable time to accomplish. Registration figures show the company currently is having its troubles with sales, and dealers are unhappy. But we hear that better days are coming, when 1955 models appear starting in October. The new cars will be completely changed, with brand new styling.

Wrap-Around Windshields To Spread

THE WRAP-AROUND-WINDSHIELD INTRODUCED ON OLDS, BUICK, AND CADILLACS this year, will sweep the Big Three this year and may appear on one or more of the independent makes. Other companies may not follow the GM pattern exactly, but windshields will have the same panoramic effect. Corner post location and angle, however, may vary somewhat.

No Need For Pessimism

WHILE PRODUCTION AND SALES OF AUTOMOBILES ARE ADMITTEDLY DOWN SOME so far this year, as expected, and repossessions up slightly, there is nothing in official statistics on these three automotive barometers to justify any undue pessimism.

PRODUCTION TO THE FIRST QUARTER was less than 90,000 under a year ago, totaling about 1.4 million cars. Registrations for January and February are estimated at about 730,000 compared with 782,000 the year before. March sales figures are expected to show a continuation of the upward trend and could well hit 420,000 bringing the total for the quarter to 1.14 million new cars sold, compared with 1.26 a year earlier.

REPOSSESSIONS ARE UP ONLY SLIGHTLY, according to finance companies, and far below the normal average through the years. Last year the rate was 1.02 per cent on new cars and 4.6 per cent on used cars. Since 1925, the average repossession rate has been about 2.5 per cent on new cars and 12 per cent on used cars.

Hudson-Nash Consolidation Closer

CONSOLIDATION OF HUDSON AND NASH INTO AMERICAN MOTORS moved a step nearer completion March 24, when stockholders of both companies approved the proposal, although not unanimously. There still are some conditions to be met, however, including favorable action by both directorates before April 23, approval of affected banks and lending agencies, and the possibility of abandonment of the merger if more than 40,000 Hudson shareholders demand cash for their stock. At the moment, however, it looks as though the deal will go through eventually. Reports that Hudson operations would be moved to Kenosha, Wis., were termed "conjectural" by A. E. Barit, Hudson president.

Metropolitan Outlook Good, Says Nash

NASH HAS BEEN AGREEABLY SURPRISED BY THE RECEPTION OF ITS METROPOLITAN, a small car selling at about $1600 delivered. The entire U. S. stock, amounting to about 2,000 cars, was sold in the first few days. The company now is studying the depth of the market and may order a substantial increase in production from its supplier company, Austin of England.

PRICES ANNOUNCED BY NASH FOR ITS METROPOLITAN model again emphasize the difficulty in matching size and weight reductions with a comparable cut in selling prices. Compared with the Nash Rambler, the Metropolitan weighs 750 lb less, has 15 inches shorter wheelbase, is 35-½ inches shorter, and is narrower by 12 inches. Also its 4-cylinder engine turns up only 42 hp compared with 90 for the Rambler 6-cylinder engine.

NASH ADMITTEDLY HAS NO CONCEPT OF THE METROPOLITAN AS A VOLUME LOW-PRICED CAR. Rather it considers it as a lower priced specialized vehicle combining some of the elements of a sports car, utility vehicle, and a "second" car featuring Continental styling and unusual fuel economy.

THE COMPANY ALSO IS CAUTIOUS IN ITS APPROACH, being committed for only 10,000 Metropolitans with provisions to produce 20,000 if the market calls for that many.

ANOTHER INTERESTING FEATURE OF THE ARRANGEMENT under which the cars are built entirely in England and imported by Nash is that the Metropolitan not only carries an import duty of about 10 per cent but in addition is subject to this country's Federal excise tax of 10 per cent. The U. S. excise is levied on the value of the car after the import duty is added, resulting in double taxation.

Dealer Profits Down

OVERALL PROFITS OF CAR DEALERS IN 1953 DROPPED from 4.4 per cent of sales at the end of the first quarter to 2.2 at the end of the fourth quarter, reports the National Automobile Dealers Association. The association attributed the profit loss to higher inventories of used cars and the losses sustained on them as a result of declining prices.

Ford Testing Techniques

BATTERING-RAMS MADE OF HEAVY IRON BLOCKS are being used by Ford Motor Co. to simulate highway collisions at various speeds. The rams, used to study car safety, are fastened to ceiling beams and swing like huge pendulums into test cars.

MANIKINS THE SIZE AND WEIGHT OF AN AVERAGE MAN are placed inside the car to determine passenger contact with interior parts in a collision.

FORD MOTOR COMPANY HAS ANNOUNCED A NEW ACCESSORY for its convertible. It is an actuator which automatically raises a convertible top at the touch of a drop of rain or snow.

THE DEVICE CAN BE MOUNTED ON THE LEFT FRONT FENDER or on the sun visor. A rain drop on the control grid makes an electrical contact which starts the motor that operates the top.

A CONTROL BOX FOR THE DEVICE is located on the left side of the engine compartment, and a wiring circuit has been designed to prevent the top from going up while the ignition switch is on. This safety control precludes raising the top while the car is in motion.

Motorama Popularity Continues

GENERAL MOTORS' MOTORAMA CONTINUES TO BREAK ATTENDANCE RECORDS. The nine day show in Los Angeles attracted 469,767 persons to top the previous high attendance of 318,000 during its nine day run in Miami. The company said that the single day attendance of 81,098 in Los Angeles also was the highest ever recorded for the show, surpassing the top daily figure of 53,400 in Dallas last May.

Rumors Are Flying

RUMORS ARE RUNNING WILD IN THE AUTOMOTIVE INDUSTRY these days. Reports of possible mergers or acquisitions crop up at the rate of two or three a week in Detroit.

THEY INVOLVE SUCH REPORTS AS PACKARD IN MERGER WITH STUDEBAKER and/or American Motors; Reo with American Motors; Auto-Lite and Motor Products with Chrysler; and Borg-Warner with one or more automobile manufacturers. So far as we can determine, all at the moment are without any substantial foundation.

THERE ALSO IS A GREAT DEAL OF SPECULATION about the ultimate destination of Roger M. Keyes, Deputy Secretary of Defense, who leaves his post in Washington May 1. He has variously been reported slated to join General Motors, newly formed American Motors, Chrysler and Kaiser-Willys. So far there appears to be little basis for any of the speculations.

Washington Wire .....by Ray M. Stroupe

Room For Sales Improvement

SALESMANSHIP AT THE RETAIL LEVEL CAN STAND PLENTY OF IMPROVEMENT, Assistant Secretary Lothair Teetor emphasizes. Mr. Teetor says the retailer, to be successful, must be alert, interested and courteous. He calls the width of the counter the toughest obstacle of the entire merchandising system.

Tax Returns May Be Late

RETAILERS WAITING FOR FEDERAL INCOME TAX RETURNS may be facing a slight delay. Revenue officials, ordered to spend more time checking returns, hope to get most refunding done by May 15. Last year, they had the bulk of refunds in the mail before the end of April.

Federal Fleet Too Large, Senator Says

TOO MANY CARS AND TRUCKS ARE BEING RUN BY THE GOVERNMENT, says Sen. Karl Mundt, R., S. D. He wants central government motor pools to replace separate ones operated by most agencies. Mundt believes 10,000 vehicles could be dropped from the Federal fleet at a saving of more than $5 million a year.

New Car Buyers May "Hold Off"

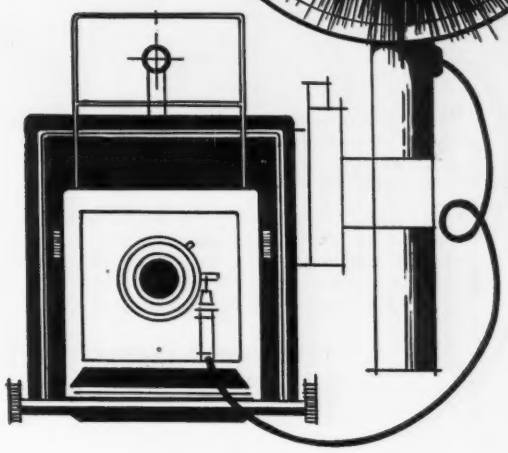
NUMBERS OF POSSIBLE NEW CAR BUYERS MAY BE WAITING until after the end of the summer to make their choices. Federal Reserve Board interviewers recently found this attitude among some who say that they plan to buy this year. The proportion who intend to get new cars was smaller than in early 1953, but greater than in early 1952 or 1951.

GENERAL SERVICE ADMINISTRATOR MANSURE thinks the government should trade cars more often. Present practice of keeping vehicles in service until they have been driven 60,000 miles wastes about $40 million a year, Mansure charges. He says industry studies show a car becomes inefficient after about 50,000 miles and three years' service.

API Shows Taxation High On Motorist

STATE AND FEDERAL GASOLINE TAXES THIS YEAR will total nearly $3 billion, American Petroleum Institute figures. Average tax on a gallon of gas now is 7½ cents. The Institute observes that, while car and truck registrations have doubled since 1929, highway user taxes of all types are four times as great.

AUTO RETAILERS FEEL "GENERALLY OPTIMISTIC" ABOUT SALES PROSPECTS, National Automobile Dealers Assn. finds. They realize some 18 million vehicles built before World War II are overdue for replacement. Dealers will stress convenience of such new-car features as power steering and automatic transmissions.



General Motors Triples Size of Testing Ground

To keep pace with modern automotive engineering, General Motors Corp. has more than tripled the size of its Milford, Mich., Proving Ground with the acquisition of 2595 acres of land.

Pointing out that some of the original installations are outdated for today's high performance tests, GM said the new area will permit the company to extend one straightaway to three miles.

The new testing facility will also have a 2800 ft long 7.2 per cent grade, with superelevated return loops and a separate return road. Major improvements recently completed at the Milford Grounds include a new two-mile gravel access road, with a 2.6 per cent test hill and maximum grades of 5.8 per cent; a 1200 ft long 16 per cent grade, and a shake-loop with built-in bumps.

Chrysler Offers Enterprise Plan For New Dealers

Chrysler's Dealer Enterprise Plan, set up to finance new dealerships in much the same manner as GM's GMAC, grows out of the need for the company to replace many older dealers who have made fortunes and now want to retire and also some newer dealers who fear the ferocity of today's competition. It will provide up to 75 per cent of the capital required. Its aim is to attract young, aggressive men who may not have the capital to open a dealership.

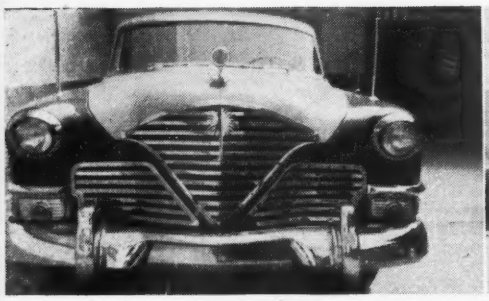
Turbines For Tank Tests

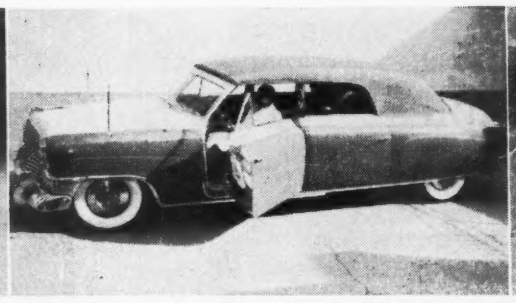
Army Ordnance is preparing to test tanks powered by gas turbines. The Detroit Arsenal this summer will install two 200 lb, 175 hp turbine engines to be supplied by Boeing Aircraft Co. in a conventional light tank.

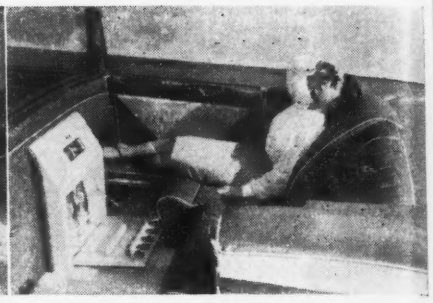
The Army already has been conducting tests with a gas turbine engine in a 1½ ton truck. It has found the performance excellent but fuel consumption extremely high. Use of two turbine engines in the tank will permit more efficient operation since only one will be used at low speeds with the second brought into operation when more power is required.

REMINISCENT OF A HARD WINTER is this scene in Denver, where blizzards created hazardous driving conditions. At the left a man checks for injured persons in this overturned car.

A FOUR WHEELED BRONCO is this modified stock car as it bucks and leaps high into the air after rear tire blew during a race at Jacksonville, Fla.







ROYAL SPLENDOR is the keynote of this $22,857 convertible by Paris designer Jacques Saoutchik. He created this 24 footer for Arabia's King Ibn Saud (center). It is constructed on a Cadillac chassis and will do 100 miles an hour. The car is in the Royal colors (Green & Cream) and Ibn Saud's gold-plated Coat of Arms glitters on the grille (left). A model shows the built-in comforts (right). Reclining seats with golden sheeps wool, many pushbutton devices plus a barometer, altimeter, clock, radio and folding desk. A complete bar and refrigerator are included.

1954 NEW PASSENGER CAR REGISTRATIONS*

Arranged by Makes in Descending Order According to the January, 1954 Total

MAKE	January 1954	December 1953	January 1953	Per Cent of Total January 1954	Per Cent of Total January 1953
Chevrolet	82,233	83,020	69,933	24.14	18.12
Ford	81,413	100,613	76,617	23.90	19.84
Plymouth	33,362	47,221	47,002	9.79	12.17
Pontiac	24,655	25,061	26,845	7.23	6.95
Mercury	23,860	27,932	19,831	7.00	5.13
Buick	23,679	26,739	26,102	6.95	6.76
Oldsmobile	13,777	21,223	18,798	4.04	4.87
Dodge	11,583	18,075	21,604	3.40	5.59
Chrysler	9,033	12,042	11,702	2.65	3.03
Studebaker	7,884	10,509	11,704	2.31	3.03
De Soto	6,964	9,658	9,356	2.04	2.42
Nash	5,784	7,756	12,763	1.70	3.30
Packard	4,094	3,174	6,450	1.20	1.67
Cadillac	3,219	9,433	8,118	.94	2.10
Hudson	2,941	4,177	5,316	.86	1.38
Lincoln	2,669	2,513	2,929	.78	.76
Willys	1,404	1,957	4,416	.41	1.14
Kaiser	479	730	2,621	.14	.68
Hillman (British)	251	303	363	.07	.09
Jaguar (British)	227	220	364	.07	.09
MG (British)	215	312	583	.06	.15
Henry J	160	246	1,302	.05	.34
Ford (British)	133	188	467	.04	.12
Austin (British)	126	161	342	.04	.09
Morris (British)	91	.....	.....	.03	.....
Allstate	.....	2	.....	.....	.....
Miscellaneous Domestic	115	112	151	.03	.04
Miscellaneous Foreign	437	560	542	.13	.14
Total—All Makes	340,788	413,937	386,221	100.00	100.00

* Based on data from R. L. Polk & Co.

1954 RETAIL CAR SALES BY PRICE GROUPS* NUMBER OF CARS

Price Group	January 1954 Units†	January 1954 % of Total	January 1953 Units†	January 1953 % of Total
Under $2,000	203,727	60.04	206,341	53.81
$2,001 to $2,500	90,364	26.63	104,994	27.38
$2,501 to $3,500	33,353	9.83	54,352	14.17
Over $3,500	11,864	3.50	17,786	4.64
Total	339,308	100.00	383,473	100.00

DOLLAR VOLUME OF SALES*

Price Group	January 1954 Dollars	January 1954 % of Total	January 1953 Dollars	January 1953 % of Total
Under $2,000	$371,124,726	52.21	$372,549,696	45.41
$2,001 to $2,500	205,288,500	28.88	233,905,958	28.51
$2,501 to $3,500	91,107,163	12.82	147,329,929	17.96
Over $3,500	43,295,499	6.09	66,585,534	8.12
Total	$710,815,888	100.00	$820,371,117	100.00

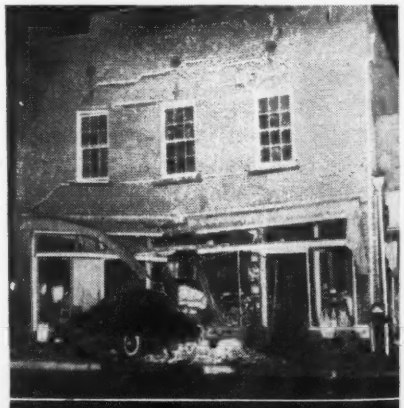
*—Calculated on basis of new car registrations, as reported by R. L. Polk & Co., in conjunction with advertised delivered price at factory of four door sedan or equivalent model. Does not include transportation charges or extra equipment.

†—New registrations of American made cars only. Does not include imported foreign cars.

Polk Reports Registrations Up

New passenger car registrations are on the upgrade, with indications that February totals will approximate 389,000, according to R. L. Polk & Co. The estimate was based on returns tabulated in 27 states.

A BUILDING RETALIATES against an intruding car. Going at a high rate of speed the driver swerved his vehicle into this store front (top, below) to avoid hitting a Police Station in Barnwell, S. C. Three hours later the building caved in to crush the car (bottom).



AN AUTOMOTIVE HOT FOOT is what this car got when its front tire went flat on Chicago's Irving Park Boulevard. The driver didn't stop and as a result, the tire and later the engine caught fire.

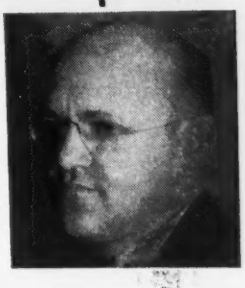
AMA Announces Standardized Brake Drum Service Procedure

The Service Managers Committee of the Automobile Manufacturers Association, after exhaustive study and consideration of brake drum designs, have consolidated their thinking and published a report of their study as follows:

"The Service Managers Group of the Automobile Manufacturers Association recommended that brake drums on passenger cars and light trucks in the 9, 10, 11 and 12" diameters should not be machined to oversize limits on the inside diameter beyond .060" (.030" on radius), with the exception of Lincolns and Mercurys produced prior to 1952 and Fords produced prior to 1949 where design limitations suggest holding the oversize to the .030" of an inch on inside diameter (0.15" on radius). Chevrolet, in addition to the agreement as outlined above, also included the same .060" limit on 14" truck drums and recommended a maximum limit of .120" on drums of 15" diameter and over."

OVER THE SIDE goes this unoccupied car. After skidding to a stop at the edge of a 300 foot slope an attempt was made to tow it out. But the car slipped over the edge and plunged to the bottom.

Engineering Highlights



by
Joseph Geschelin
Engineering Editor

REINFORCED plastics, because of their unique properties — including great structural strength and facility of fabrication — are exerting considerable influence in the automotive industries and promise ever broadening applications.

Mock-up of 1954 Cadillac, made of reinforced plastic at the GM Styling Division

Reinforced plastics have become an invaluable ingredient in the work of the Styling Division of General Motors Corp.

Before the adoption of reinforced plastics the development of new body designs for the various passenger car divisions followed an established pattern. Some of the stages remain unchanged in current practice. For example, the first step was the preparation of idea sketches. From these emerged an acceptable design which was translated into full scale drawings. At this point styling prepared a full sized

(*Continued on page* 118)

CLOCKING A HOT ROD on Glen Cove, L. I., speed run. An official gives the car's time to girl who relays it to other posts. Twenty cars raced.

ALL WAS NOT JOY at the Grand Prix endurance race in Sebring, Florida. Ace Italian driver Piero Taruffi (top left) disconsolately pushes his race-leading Lancia after it conked out less than an hour before the finish. (Above) the joyful winners Bill Lloyd of Green Farms, Conn., and Sterling Moss of London, England display victory smiles through the tangerine blossoms.

DOOF Campaign Set for June

Plans have been laid for the third annual DOOF campaign, designed to increase the business of the nation's autobody refinishing shops. Theme of the industry-wide campaign is: Got DIF trouble? Get DOOF happy! DIF means dents in fenders; DOOF means dents out of fenders—and June 1 marks the beginning of the drive to bring business into the shops.

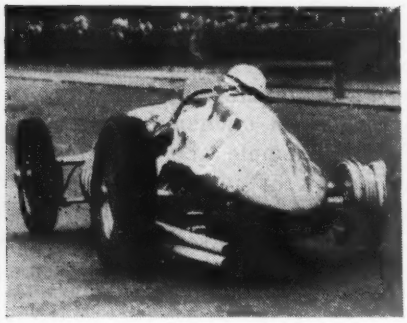
Participating will be automotive wholesalers, dealers, refinish shops, and the service departments of automobile manufacturers. The campaign is underwritten annually by 3 M Company of St. Paul.

Hoitsma Joins NADA Staff

The appointment of Ralph K. Hoitsma, a leader in the field of sales and personnel management, to the staff of the National Automobile Dealers Association, has been announced.

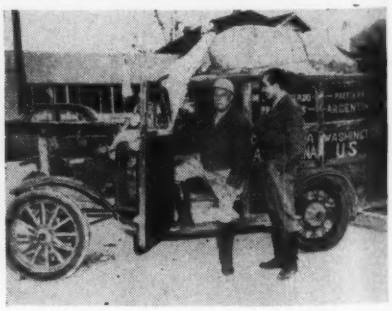
At NADA Mr. Hoitsma will work in the development of sales and merchandising programs for the more than 33,000 members of the national association.

COMING IN ON A RIM AND A PRAYER, this car crossed the finish line to win a recent road race on the Continent. The tire blew out near the end of the race and ripped completely off the rim.



HIS 'ODD O MOBILE' is a converted P-38 belly tank. It's 13 ft. long, weighs 500 lbs. and cruises at 40-45 miles per hour with power from a one cylinder engine. The body is mounted on an axle and suspension springs.

THE RUGGED MODEL "T" below carried Jose Fernandez and his son 19,907 miles in 30 months. On a good-will tour from their native Argentina to the U. S., the Fernandezs' will visit the Ford Plant and then fly home.



Report to Our Readers

the ever-lasting secret

EVERY successful automotive man we know seems to have that priceless secret of treating everyone he meets as a customer or prospective customer. Now, not every one he meets is a customer, nor remotely a prospect. Yet his manner never changes.

This highly commendable trait has brought success and profit to many an automotive retailer and should be inbred in all new-comers, studied and cultivated by old-timers as well.

Sam Vauclain, onetime president of Baldwin Locomotive Works, once wrote, "The foundation of business is the customer. What is the use in talking about conditions . . . if you do not know how to satisfy customers—not to talk them into thinking black is white, but to convince them that you and your work are honest and that, if there is any dissatisfaction, it will be made into satisfaction."

We also think that this philosophy of treating everyone with the friendliness of a prospective customer could be used at home and with your business personnel. We'd be willing to make slight wager that you could get your wife to give you a big hug and a kiss tonight—if you treated her like a customer. Assuming, of course, you *are* the salesman you think you are.

" . . . This one was strictly for the birds . . . "

sunday school lesson

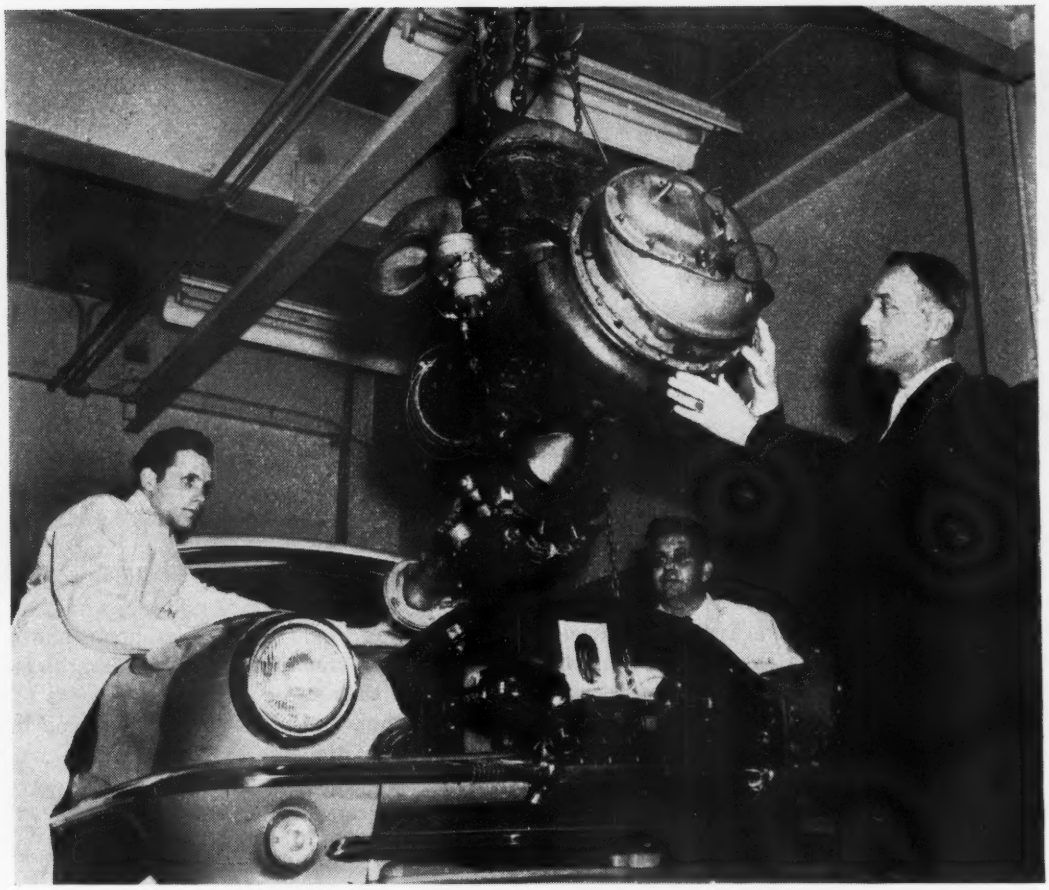
Our North Kansas City correspondent reports the story of the Sunday school teacher who asked her class of six-year-olds to "Think of a story from the Bible and then draw a picture of it."

The teacher seemed pleased with her class until she spotted one lad drawing a slinky sports car with two people in it and a halo over the driver's seat.

"And just what Bible story do you think that tells?" she asked.

"That's the Lord driving Adam and Eve out of the Garden of Eden," was his reply. "God sees us but we can't see Him. That's why I couldn't draw Him at the steering wheel."

Frank P. Tighe
EDITOR

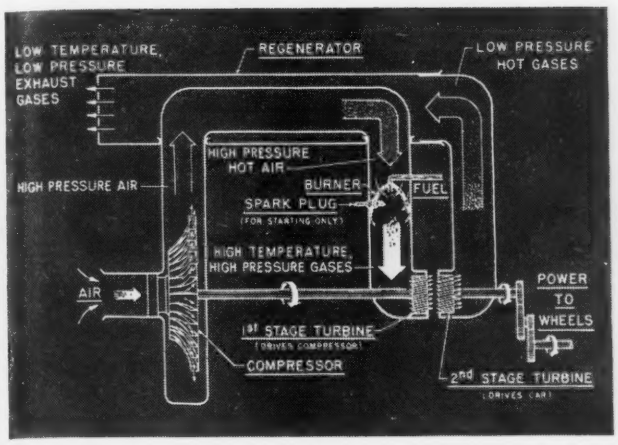


Chrysler Corporation's new Regenerative Gas Turbine is guided into a 1954 Plymouth by Executive Engineer George J. Huebner, Jr. This gas turbine is the latest stage of over nine year's work by Chrysler engineers.

Gas Turbine Engine!

Demonstrated by Chrysler

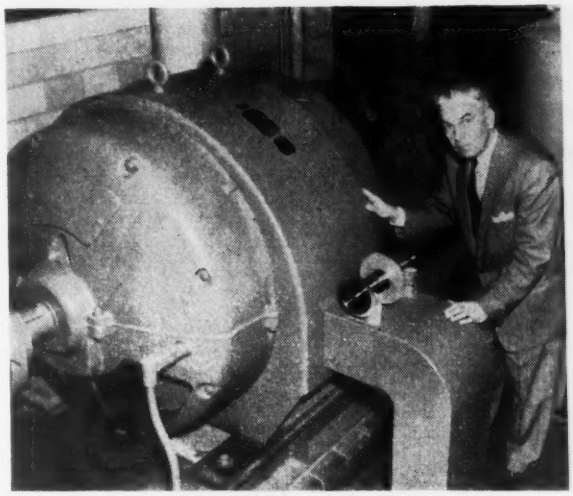
A Turbo-powered Plymouth, now on test at Chrysler, utilizes own exhaust heat



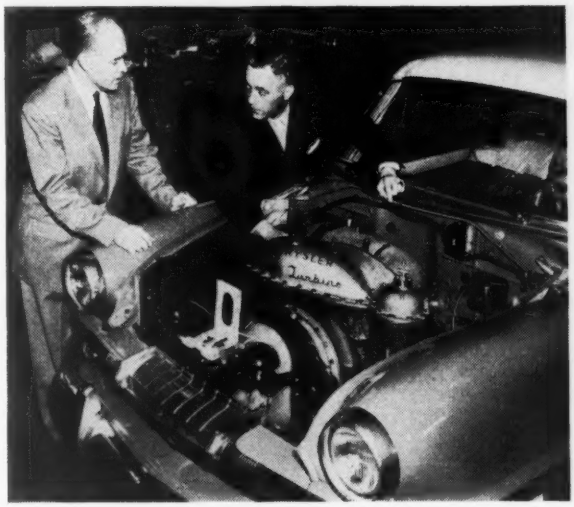
A schematic diagram of all the working parts of the Chrysler Regenerative Gas Turbine engine and how they operate.

Chrysler Corporation President L. L. Colbert shows turbopowered Plymouth's exhaust is not hot to the hand.

The tiny compressor unit of the turbine engine has a greater air handling capacity than the giant laboratory compressing equipment shown with it.



Engineers Wm. I. Chapman and G. J. Huebner, Jr., point out how easily the compact turbine engine fits into the Plymouth.



A GAS turbine engine capable of operating a current model automobile is now undergoing road tests at Chrysler Corporation's proving grounds. The Chrysler gas turbine's fuel economy equals that of conventional automobile engines, its exhaust is cooler than that discharged by the average car, and its performance is far beyond that of piston engines of comparable horsepower, the company reports.

Key to this turbine engine's fuel economy and cool exhaust is a new heat exchanger or regenerator, which utilizes most of the heat discharged as waste by conventional gas turbines.

This heat is transferred to the incoming flow of fresh air and so becomes available as useful energy to drive the wheels of the car.

Until now heat exchangers of the efficiency and capacity needed to provide fuel economy comparable to that of automobiles now in everyday use, would have been too large to install in a passenger car. The essential problem, then,

(*Continued on page* 110)

to overcome economy problem

THE 1954 NATIONAL SAFETY-CHECK CAMPAIGN

They Sell Safety All

The Butner's *personalized* safety service and modern equipment pay off in steady customers and more sales

by Arthur H. Nellen, Jr.
Managing Editor

Wheel alignment service accounts for a substantial portion of Butner Brothers' service income.

OVER five hundred brake and front end jobs in the first ten months of operation is a good record in anyone's book—especially in a five-man shop. That's what Butner Brothers' Service has done in less than a year's time in just this one segment of its activity.

Safety services have proved to be the best seller at this combination repair shop and service center. They, for the most part, do their repair business by appointment only, thanks to the enviable reputation they have developed in their community. Here's how they do it. Howard, George and Sam Butner are all top notch mechanics who have combined their experience to open a modern service center. The gas pumps help to bring in

Below left. Every car, whether new or old, gets a complete check-over whenever it comes into the shop. (Below) Butners' shop has all of the latest equipment and puts it to good use.

Year 'Round

a steady flow of customers whose confidence they win by showing a personal interest in each car. This "welcome mat" has kept the lubrication business increasing steadily, and that's the key that opens the door to selling safety service.

Howard Butner points out that a $1.25 lube job costs the shop far more than $1.25,

(*Continued on page* 158)

Service and "public relations" begin at the gas pump—from which point Butner Brothers win the confidence of their customers.

Highway Safety Country Style

The rural town of York, S. C., takes its citizens in hand at an early age to prove that long range safety training programs mean a safe, happy community

by Bart Rawson
Editor, Commercial Car Journal

ABOUT 35 miles southwest of Charlotte, N. C., is the town of York, S. C. It looks to the average stranger like any other town of some 3500 population in the southern state group. But it has one very definite distinction that sets it apart from the average town of its own or any other size. It has had no traffic fatalities in

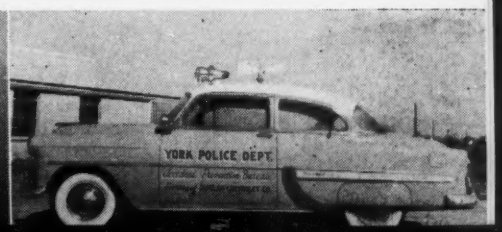
(*Continued on page* 46)

Washrooms throughout the town have "safety mirrors".

Swimming instructions are part of York's safety program, and a welcome part, at that.

The Police Department posts a list of the monthly safety slogans which will be seen around town.

Dunlap Chevrolet, a local dealer, presented this safety car to the Police Department.



★ THE 1954 NATIONAL ★
SAFETY-CHECK CAMPAIGN

the past two years.

The story of how the town got that way was to us the most inspirational message that came out of the recent White House conference on Highway Safety.

While York ties in most of the usual safety gimmicks, the emphasis is on the kids and it begins before they are born. Most of the formal activities come from either the Chief of Police or the town officials.

(*Continued on page* 120)

Chief of Police W. T. Ivey, who has been a main spark plug in York's safety program, is shown (above) overseeing installation of pedestrian signs. In his office (below) Chief Ivey is working out program plans with two other York citizens.

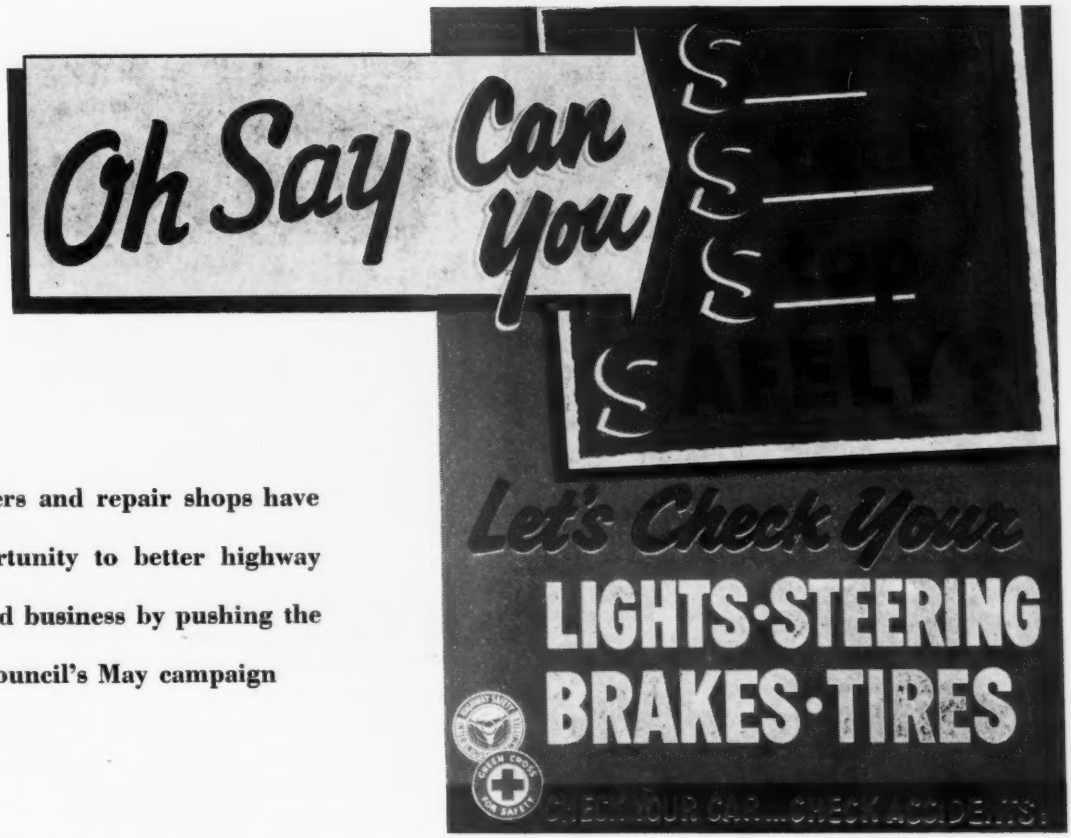
Dothan Does its Duty

Cars were directed through the safety lanes by a Dothan policeman, an Alabama Highway Patrolman and a MP from Camp Rucker.

An Alabama town makes a pre-campaign test of Nat'l Safety Council's forthcoming Safety Program and offers encouraging statistics

TRUE to the American way of getting things done when it's for a worthy cause, Dothan, Alabama, conducted a safety check campaign to check the effectiveness of the latest "Check Your Car—Check Accidents" program—10,275 vehicles—nearly 70% of total registration in the county in which Dothan is

(*Continued on page* 122)



Car dealers and repair shops have an opportunity to better highway safety and business by pushing the Safety Council's May campaign

Campaign publicity will help make motorists safety conscious. Servicemen can follow up by asking every customer if his car is safe to drive.

EVERY car dealer, repair shop and automotive wholesaler in every city can take part in the National "Safety Check" Program to be conducted during the month of May. This year's slogan is "Can You See, Steer, Stop Safely? . . . Check Your Car—Check Accidents." The campaign is sponsored by the National Safety Council in cooperation with the Inter-Industry Highway Safety Committee.

Need for the program is evidenced by the fact that 34 per cent of the cars in use in 1953 were 10 years old or older.

Results of sample safety checks made during the 1953 program showed 27.4 per cent, or 1 out of 4, were in need of service attention to one or more parts affecting safe vehicle operation. One out of six vehicles checked needed brake service.

In a 1954 pilot community-wide "Safety Check" conducted in Dothan, Alabama, where 88 per cent of all registered vehicles were checked, 35.4 per cent needed service attention for safe operation.

Only 14 states and the District of Columbia require periodic inspections of vehicles.

Dealers and repair operators are urged to:

1. Order and display official identification materials for use during May.
2. Send special letters to all customers offering a special safety service check of vehicles. Offer a "Safety Check" for every vehicle entering the shop during the month.
3. Use the steering wheel "Safety Check" tags for checking items affecting safe vehicle operation. The lower part of the tag should be torn off and retained for dealer follow-up and to complete final report on vehicles checked. 500 tags are included in each kit.
4. Feature "Safety Specials" during the month, with emphasis on brakes, lights, tires and steering.
5. Tie in slogan and program need with local newspaper, radio, television and outdoor poster advertising. (Reproduction proofs of newspaper ads, in two sizes, are included in each kit.)

(Continued on page **136**)

Installing power piston guide seal.

Overhauling

by Jack Montgomery
Technical Editor

Installing felt wick over spring.

POWER brakes are now available on practically every make of car and are standard equipment on several. As more and more of these cars will be requiring service, repairmen should become acquainted with maintenance and overhaul procedure.

Before removing the power cylinder assembly for an overhaul, check the complete brake system for possible leaks. If the cylinder needs repair, order a complete repair kit. This kit has all the necessary parts to do a complete overhaul.

Disassemble the unit as follows. Remove the push rod boot and pull out the push rod. Clamp the unit in a vise and take off the air cleaner; lift out the air cleaner core. Remove the three head bolts. Three screw driver slots are provided in the flange of the head to assist in its removal. Loosen the head by inserting a screw

Installing reaction rod piston assembly.

Counterboring the face of the hydraulic cylinder.

Buick Power Brakes

Here is a complete reconditioning procedure for the Kelsey - Hayes power brake mechanism, which is used on 1953 and '54 Buick models

driver in each slot and twisting; then remove the head by tapping up evenly on the flange, using a screw driver and the heel of the hand or a light hammer. Remove the head and power piston together, using care to keep them under control, as the return spring is released.

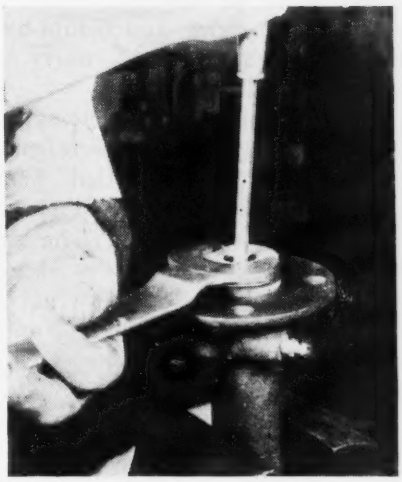
Disassembling the Vacuum Side of the Unit.

If the power piston and guide have been removed with the head, set the power piston assembly in a holding fixture, with the power piston end down and the guide end up. Lift the head off the power piston guide. Remove "O" ring and bumper from outside of the head.

Place the head in an arbor press with the inside surface up, and remove bearing, "O" ring, and guide seal, but save the bearing. Bend back the leather lip of the piston cup and remove the wick and expander ring.

Disassemble the power piston and guide assembly by removing the three bolts and lifting the guide assembly off the power

(*Continued on page* 156)



Hold the residual check valve down while tightening the cylinder plug.

Assemble the hydraulic cylinder to the vacuum cylinder.

View of residual valve and power piston bearing assembly.

Pop Beats The Clock

Tommy and Larry suffer from nervous frustration over a pert Miss and a balky transmission until they find out that Pop was right after all.

POP O'NEILL leaned back in his swivel chair and plopped two feet on the counter stool. "Don't nobody bother me for the next ten minutes," he said. "I'm gonna' do nothing at all until those shrimp quit nibbling at my ulcers. Hmmmm, what a lunch that was!"

Serves you right. You should have smothered them with bock beer," Larry retorted and walked out, disgusted.

The old man was just getting ready to sneak a couple of winks when the telephone screamed at his elbow. He startled, heaved forward heavily and knocked the stool into the glass display case. "I'm comin'," he growled at the phone.

"Judd Cypher, Pop. I've got transmission trouble on my '52 Chrysler. Want you to fix it right away."

"What's wrong with it, Judd?" Pop said, nodding his head vigorously to shake off sleep.

"Well, since the last mechanic worked on it, it won't shift into fourth gear. Before the last mechanic worked on it, it wouldn't stay in third. And before the first garage took an excursion trip through the unit, it had a continuous noise. So you see, Pop, I'm hardly progressing with this thing. It's beginning to get on my nerves."

"That don't sound so good at all. Want to bring it in tomorrow morning?"

"No, I don't want to bring it in tomorrow morning. I want you to come and get it today —now. And fix it. I've got to have that car by six o'clock tonight. I'm going on a trip."

"Tonight? Why it's one o'clock now. . . . "

"I said tonight, so send your boy over here right away. . . . "

"Wait a minute, Judd. We're snowed in this afternoon. And that job's going to take time. . . . "

"Then don't stand there gabbing over the phone, man. You can pick it up here at the Coal and Coke Company. You know where we are."

Pop's neck got red but he remembered his asthma and simply scowled at the ceiling. "Is

(*Continued on page* 98)

"Well that is Pop's car. I guess I'd know Pop's car any place I saw it. Now what goes on here?" The gal's dimples were beginning to show.

A Helping Hand From Uncle Sam

The S.B.A. will help the small businessman with free advice from the experts and, if no other source is available, it will lend money

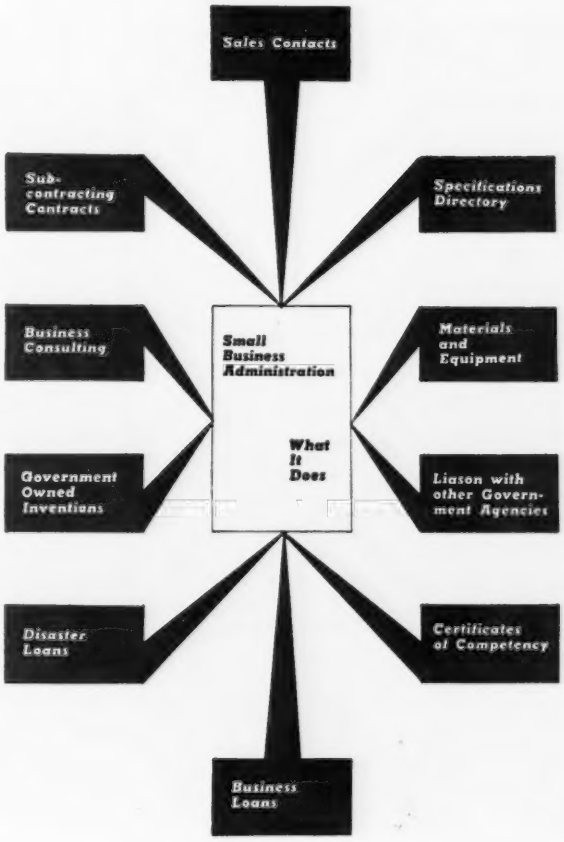
A WISCONSIN automobile dealer recently found himself in precarious financial straits. It was the result of a number of factors: he had on hand an excessive inventory—particularly used cars on which he had allowed excessive trade-ins; he was carrying too much paper himself; and he had over expanded in recent lush years in the building of a new store and shop.

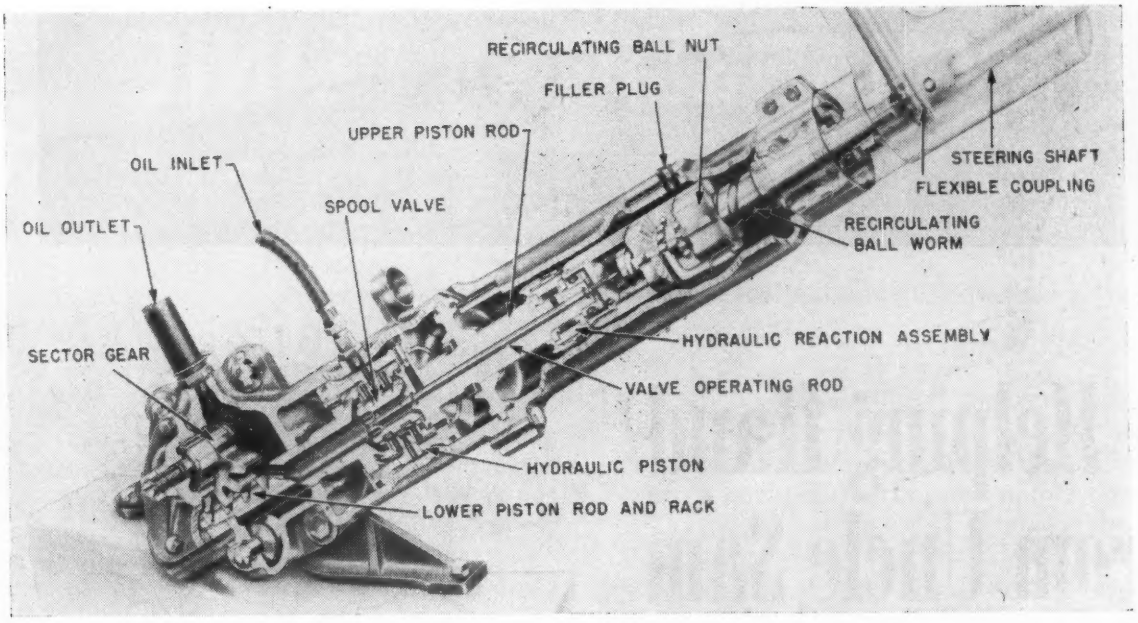
He went to his local bankers for a loan who spurned his request—as they had been spurning for years his requests that they handle some of the financing of the autos he sold—on the basis that he had insufficient collateral.

Finally, on the verge of bankruptcy because he had tied up his liquid capital, this dealer went to the branch office of the Small Business Administration at Madison, Wis., where he not only found sympathetic listeners to his plight, but some expert advice on revamping his business, and a loan to tide him over the hump.

(*Continued on page* 76)

As can be seen from the chart below, this Federal Agency functions in many ways to help the small businessman.





Cross-sectional view of Chrysler Corp. Coaxial power steering gear, emphasizing some of the major elements of the mechanism.

Chrysler Announces Its

Coaxial Power Steering

Cutaway of rack and sector gear assembly.

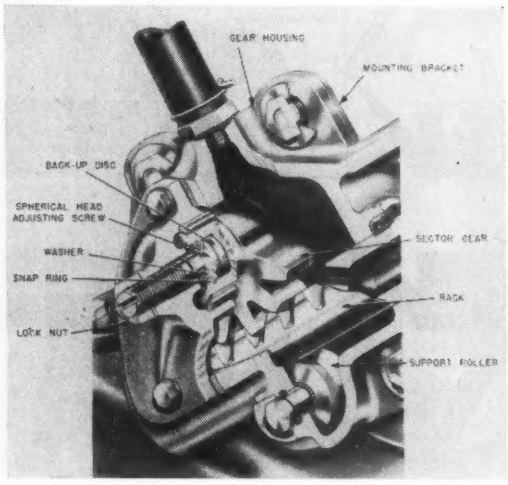
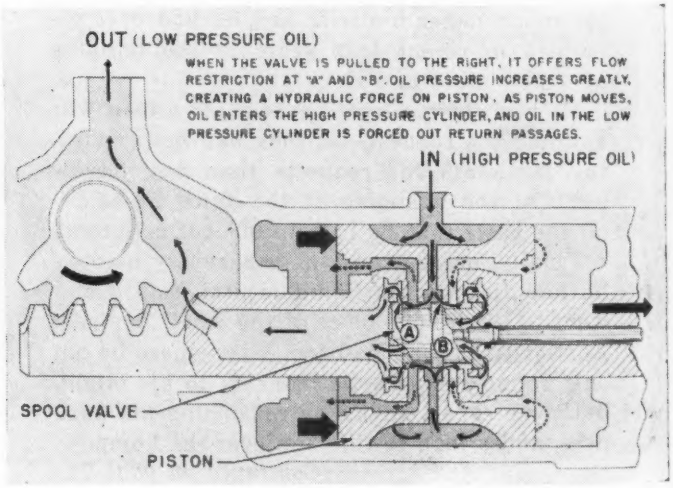


Diagram showing pattern of oil flow on a right turn.



CHRYSLER and De Soto cars with power steering are now equipped with the newly developed Chrysler full-time "coaxial" power steering gear. Stemming from a two-year development program, this new integral type gear features a simple cylindrical form with excellent space utilization making for less bulk in the under-hood compartment. Chrysler claims this unit has fewer parts than other integral units now on the market, less complicated design, and lower weight.

Although it will be used with the present conventional steering linkage of 1954 cars, the overall steering ratio has been reduced to 16.8 to 1 as compared with 25.8 to 1 with conventional steering gear.

The hydraulic system consists essentially of a double-acting piston, a spool valve within the piston, and a hydraulic reaction chamber. Axial positioning of the spool valve directs high pressure oil to one side or the other of the piston.

A more compact, less complicated integral power steering gear, the Coaxial unit will be used on all Chrysler products so specifying it as an option

At the same time, valve movement opens a return line leading oil from the low pressure side of the piston to the reservoir.

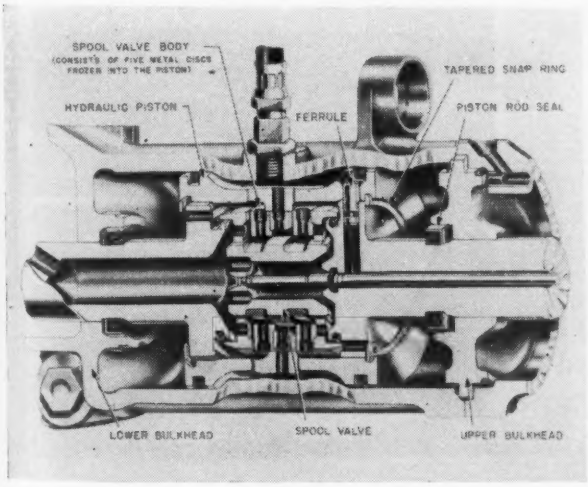
The rotor type oil pump mounted overhead on an extension of the generator shaft to add further to compactness, incorporates a pressure relief valve and flow control valve, and a filter with the oil reservoir. The flow control valve limits oil flow to a maximum of two-gpm, thus holding to a minimum the horsepower required to drive the pump. Skillful design has combined all of the elements into the two major units, connecting the pump to the steering gear by means of two flexible hoses.

To visualize the method of operation, consider the role of the spool valve and valve body which control the entire system at the option of the driver. As the wheel is turned, the spool valve is displaced with respect to the valve body inside the hydraulic piston, the amount of relative movement being quite small and seldom exceeding 0.0025 in. We need consider only one of the maneuvers here, say valve displacement to the right. Referring to the oil flow diagram, as the valve is moved, the inlet oil pressure increases because of the restricted openings between the valve and valve body. At the same time this increased pressure is directed to one side of the power piston.

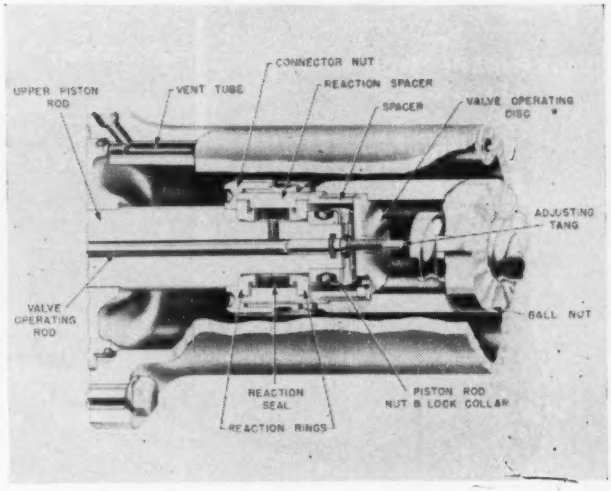
As oil pressure builds up behind the restrictions, it increases enormously, and squeezes the oil through the narrow spaces at a fast rate. At times the restrictions may close completely, causing pressure to build up to operating level

(Continued on page 90)

Details of the piston and spool valve assembly.



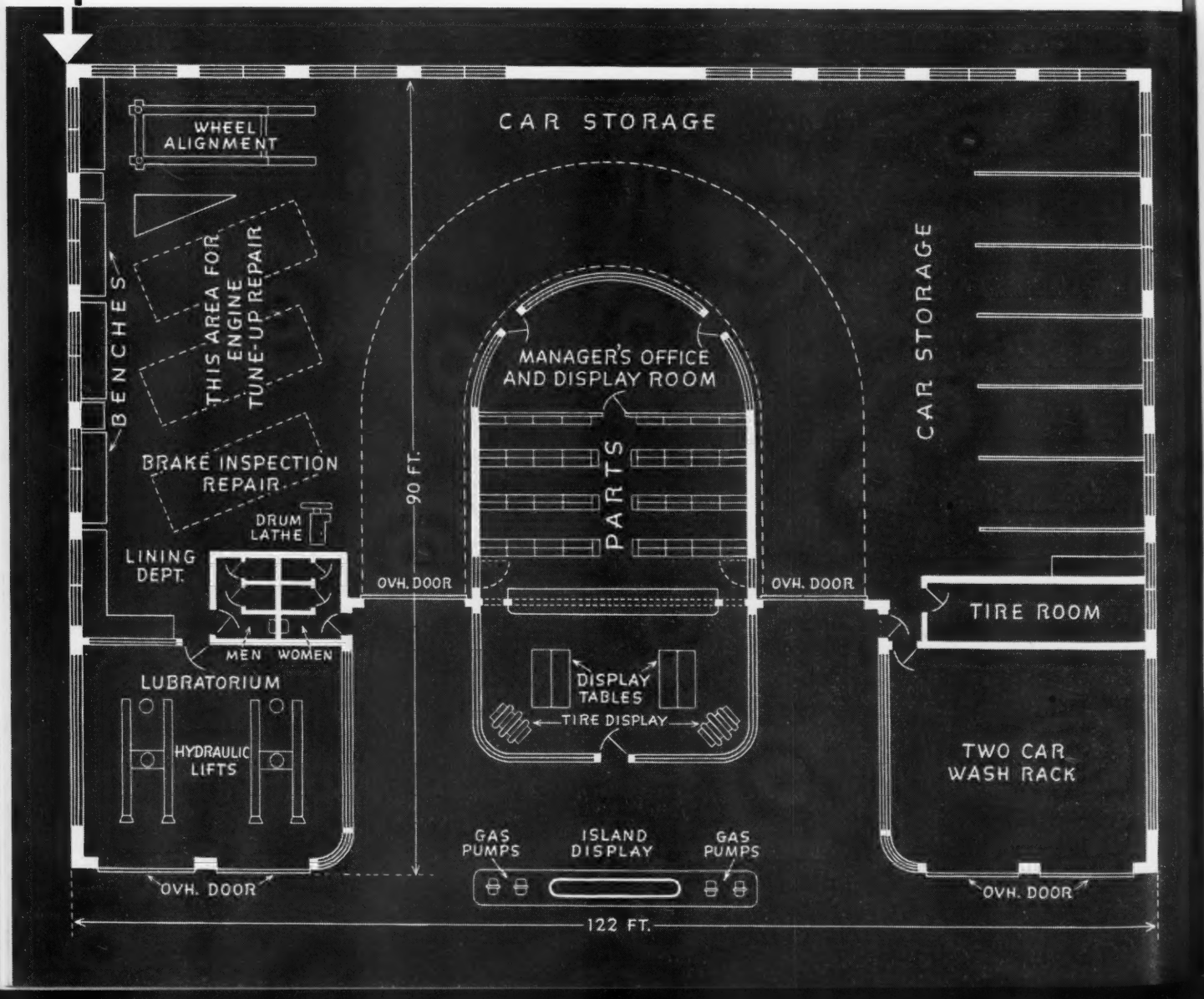
Cutaway view of the hydraulic reaction assembly.



Small Shop Layout

Designed by Russ Riley of Thompson Products for the Thermoid Company, this servicenter layout offers the operator efficient repair facilities and good retail sales potential

IN response to numerous requests for a floor plan of a good shop of moderate size, MOTOR AGE offers this layout of a general-duty service center. Space has been set aside for brake work, wheel alignment, tune-up, lubrication and washing. A merchandising-display area has been allowed for in the office section, so that the shop can do its share of tire, battery and accessory business. The gas pumps also help to bring in customers. Notice that eight sections of parts bins have been figured in the plan, so that the shop will be able to store its own supply of fast-moving parts. The storage area can be used for repair stalls.



To Push or To Tow

And What You Should Know

An automatic transmission equipped car which has been disabled should be moved according to the factory's recommendations. Here's how to push or tow without doing harm to the car.

MANY servicemen are confronted with the problem of pushing or towing automatic transmission cars. The recommended procedures for handling these cars are discussed fully in the following paragraphs. It is important to follow these recommendations carefully in order to avoid damage to the transmission.

Dynaflow (Buick): Start car by pushing, turn on ignition and put selector lever in neutral up to speed of 15 miles per hour, then move lever to drive position. The procedure is the same in starting on slick ice. Dynaflow equipped cars should not be towed on rear wheels in any range but neutral, and not to exceed 30 miles per hour. If transmission has been damaged, a neutral locking strap must be installed before the car can be towed on its rear wheels.

Ford-O-Matic (Ford) and **Merc-O-Matic** (Mercury): Push to start. Move selector lever to neutral. When car reaches speed of 20 miles per hour, turn on ignition switch and on Ford cars move selector lever to low range, and on Mercury cars move selector lever to drive range. As long as traction can be obtained, this method will work on slick ice. If transmission is undamaged, car may be towed with selector lever in neutral position (on either car) for short distances, preferably less than three miles, and at speeds under 40 miles per hour. If transmission is inoperative or car must be towed over three miles, rear wheels should be raised off the ground or the propeller shaft removed and rear end of transmission protected from dirt entry.

Gyromatic (Dodge): See Prestomatic Fluid Drive (Chrysler).

Hydra-Matic (Cadillac, Frazer, Kaiser, Lin-

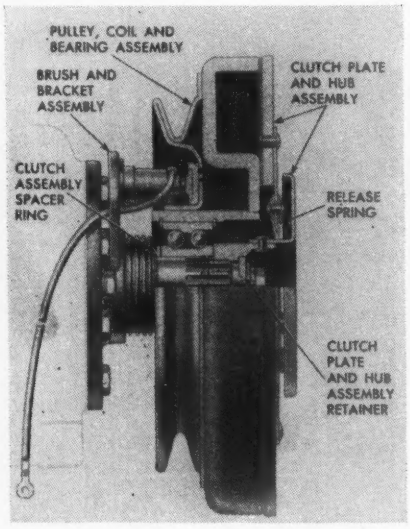
(*Continued on page* 86)

Service Suggestions From the Factories

Details on Magnetic Air Conditioning Clutch

A magnetic clutch is incorporated in the compressor drive pulley assembly on all Pontiacs with air conditioning. The clutch works similarly to a solenoid. When it is electrically energized by turning on the air conditioning, an electro-magnet in the pulley assembly locks the compressor drive plate to the pulley assembly. The drive plate which is fastened to the eccentric shaft then drives the compressor.

When the air conditioning is turned off, the circuit to the electro-magnet is broken and the clutch released. The compressor drive plate is then pushed away



from the pulley assembly by the release springs and thus, is no longer driven.

The compressor pulley operates on a double ball bearing on the eccentric shaft so that it can rotate indefinitely without the compressor operating.

Hudson Lists Measurements For Proper Door Operation

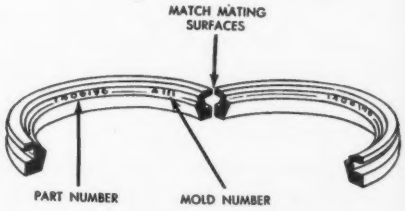
The proper operation of the front and rear door push buttons on Hudsons is attained only when the measurements are as shown in the illustration.

The measurement at upper left is attained by adding washers (Part Number 171647 — 1/32-in. thick), as may be required, at point "A." The measurement shown below is controlled by the threaded plunger and button. The object is to effect a door lock release before the button outer end passes into the retainer.

Removal of the front and rear push button assemblies is by inserting a screwdriver through access hole in door behind weatherstrip. Installation is by placing a cloth-covered tube over push button, line up key with groove in door opening and snap into position. Re-glue weather strip as necessary.

Installing Rear Oil Seal And Using the Right One

The careful installation of the proper seal is essential in preventing oil leaks at the rear main bearing on Plymouth. Before installing a new seal, be sure that the seal number and the mold number appear on the inner surface of the seal. Seals which do not have



these numbers should not be used.

Before using seals from a new Service Package, make a visual check of the two halves to be sure that the outer surface and the lip are perfectly matched. Mating surfaces which are even slightly out of line will result in leaks from around the bearing. For this reason a careful inspection is important in obtaining a good leak-proof seal.

Recently, all synthetic-rubber type seals have been made from new molds. These new seals may be identified by the letter "A" which precedes the mold number.

The cap gaskets in the new packages are also made from new molds.

For Your Bulletin Board

One To Remember

NO ONE IS REALLY BEATEN UNTIL HE IS DISCOURAGED

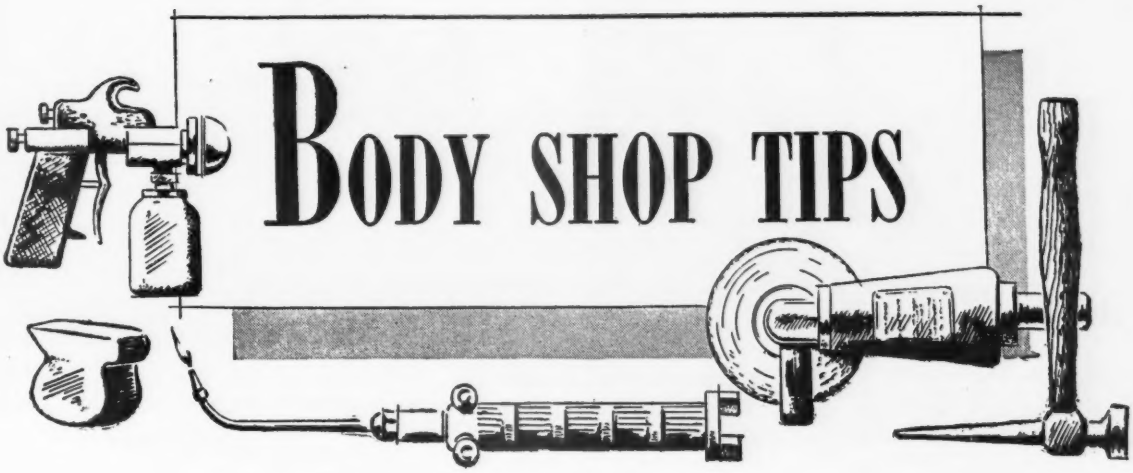
AVEBURY

"Oh, Allen lifts his hand to me once in awhile—to salute."

"Yes sir, that's the next thing on our purchasing program — a good bench vise."

"Sorry, I don't rent cars, but what's to prevent you from snapping up one of these babies and selling it at the end of the week for twice the price?"

"I wanted a boy and got a girl; you wanted a girl and got a boy. Now here's my idea . . ."



BODY SHOP TIPS

are worth

$7.50

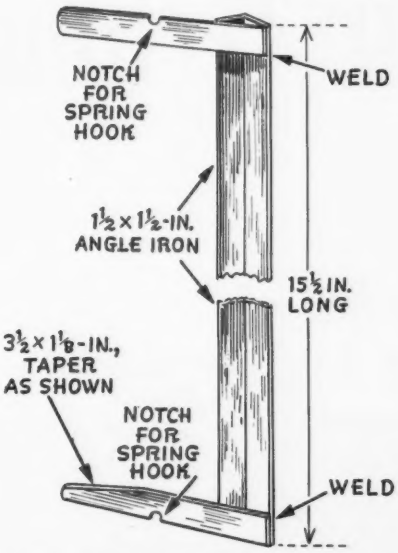
If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for $7.50.

Ammonia in Water Helps In Wet Sanding Paint

When sanding a job and preparing it for paint, put about ½ pint of ammonia in the sanding water. This will cut the grease and wax off the car while sanding; at the same time it will let the sandpaper cut better and last longer. Then wipe the area with water and wipe the chrome strips and rubber around the windows. This will cut all the road scum off and make masking tape stick better. *Elton F. Wischmeyer, 870 Harlan Ave., St. Louis 15, Mo.*

Tool for Working on '53-'54 Chevrolet Hoods

Here is a holder for 1953-54 Chevrolet hood springs. To use, have your helper hold the hood

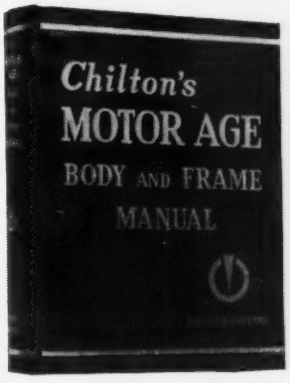


about 12 to 15 inches open; this stretches the springs to their longest position. Slip one prong of the holder in each spring hook. Raise the hood slowly until the top hook unhooks from the hood hinge. Leave the spring in position until the hood is replaced.

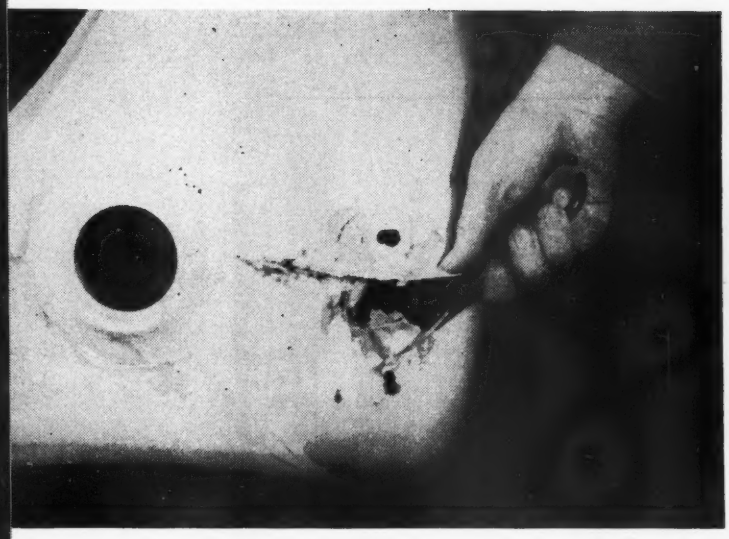
You need two holders. They are easily made with a welding torch or arc welder. *John Littelfier, Miller Knurth Chevrolet Co., 3130 Lafayette Ave., Omaha 2, Nebr.*

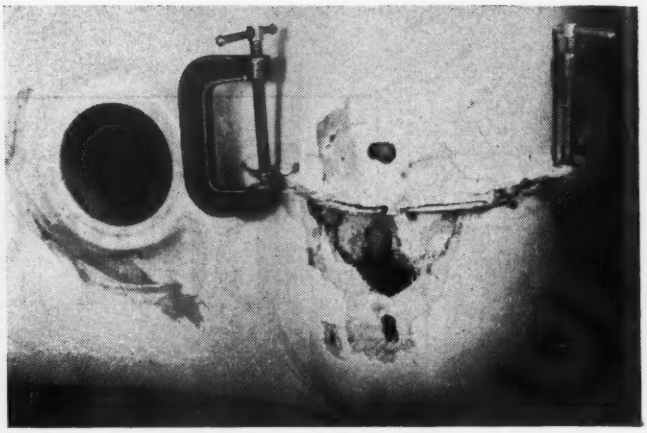
Paste Helps to Reduce Buckling at Weld

Warping and blistering of body panels when welding can be reduced by spreading a paste, made of common baking soda and water, around the area to be welded (about ¼-inch thick and 2-inches wide). Bring the paste about ¼ inch from the spot to be welded and it will absorb the heat. It can be easily removed, if hardened, by adding water. *Harvey Muller, Box 6, Danboro, Pa.*



Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Motor Age Body and Frame Manual.





When panel is fractured with a break-through, cut away the loose material (left) and fiber cloth patch applied (above).

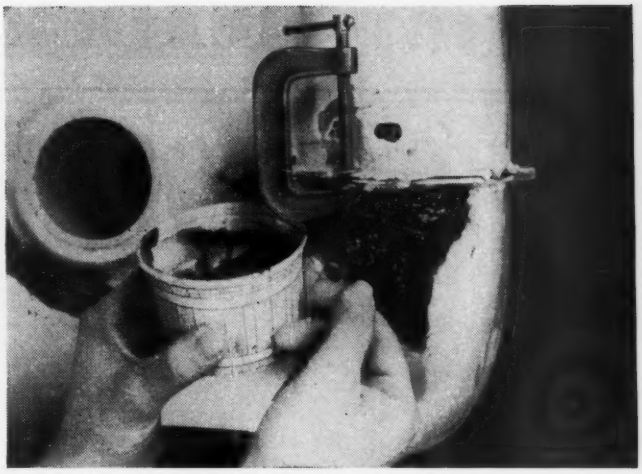
Plastic Body Repair Techniques

A putty knife and plastic mixture replace dinging tools and lead on reinforced plastic body repairs

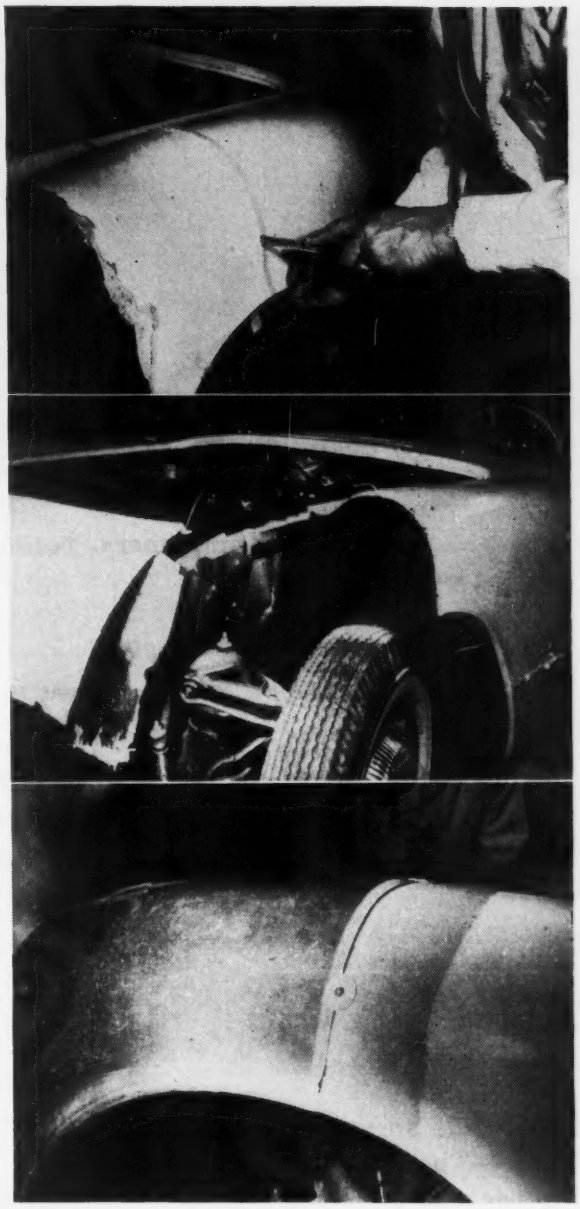
REINFORCED plastic car bodies are steadily increasing in popularity, so repair methods must be understood by body repairmen. Damage to a reinforced plastic body tends to be localized, while repair procedures are simple and require no special skills. Tests and actual field experience show that collision damage to reinforced plastic parts is of three basic types: cracks; small, repairable holes; extensive damage requiring the insertion of replacement panels.

Small cracks are repaired by first sanding the damaged area to provide good adhesion of the repair resin. After sanding, a resin mixture containing chopped glass fibers is prepared and the crack is filled. When the resin has cured,

(*Continued on page* 130)



The resin mixture is spread on to conform to the general shape of the panel. After hardening, it can be sanded.



MOTOR AGE
BODY SHOP

To repair a large break, the damaged section is sawed out (top view) and the sawed edge is bevelled (center). Repair panel is secured in place (above) after mating edges of the panels have been "veed" out to form a channel for the resin filler.

After the resin has hardened, the surface can be sanded (left) and refinished.

READERS' TROUBLE

by **Jack Montgomery,** Technical Editor

- **Surge in Powerglide**
- **Dynaflow Slips in Direct Drive**
- **Spark Plug Fouls on Stude**
- **Shift Problem on Gyromatic**
- **Increasing H. P. on Farmall Tractor**
- **Will Twin Dynaflow Fit Early Model**

Powerglide Surges—Slows Down—Then Clears Up

I have a 1954 Chevrolet Powerglide that started to surge for three seconds, then slowed down for three seconds, until after five miles — then it cleared up. Next day it stalled, was hard to start, stalled again and then wouldn't start at all. The battery started OK and the vacuum piston in the carburetor is OK. Could high tension wires be the cause?

T. W. Miller
Rome, N. Y.

THIS condition might result from the fuel pump failing or possibly the vent in the gas tank being clogged. Also, it might be caused by a loose wire, either at the ammeter, ignition switch or distributor. I doubt very much if the high tension wires could be causing the trouble.

New Reverse Fork Didn't Fix Dynaflow

Could you please give us some information on a 1949 Buick 50 Series Dynaflow? After changing the reverse band anchor fork and the drive clutch plates, clutch seals and pistons, it slips into direct drive. The front pump pressure is 100 lbs at idling and goes to 180 lbs at about 1200 rpm in low. In direct, it stays at 100 lbs for all speeds. The high accumulator stays at 45 lbs at all speeds. The pressure relief valve and the pressure control valves are free; new springs are in the front and rear pump; the valves are free, cleaned and checked: The accumulators are cleaned and the high accumulator has been changed to the later style.

Frank Peret
Chicopee Falls, Mass.

SINCE you have 100 lbs pressure at the pump and only 45 at the accumulator, it would indicate a leak at the high accumulator gasket or a leak between the accumulator and the clutch. Check the accumulator gasket first and if that is OK, then it will be necessary to remove the transmission to find the trouble.

Stude Champions Tend To Foul Up One Plug

I am having trouble with two 1951 Studebaker Champions fouling out on one plug. Could you tell me what caused it?

Eddie's Auto Repair
Santa Monica, Calif.

IT is hard to say just what caused these spark plugs to fail. The failure could be due to improper heat range, leaky cylinder head gasket, faulty rings or the distributor itself. If the same cylinder fouls the plug repeatedly, it is probably due to ring failure.

FOR ADDITIONAL SERVICE INFORMATION REFER TO CHILTON'S

CLEARING HOUSE

SHOOTING PROBLEMS

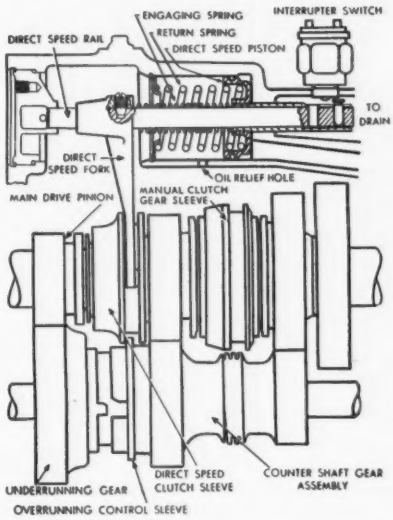
Gyromatic Transmission Shifts with a Bang

I'm having trouble with the transmission in my 1951 Dodge, Gyromatic, which has approximately 23,000 miles on it. The upshift in the transmission is good and not too noisy. When slowing down to stop, the car remains in 4th gear until the car is standing still, then it downshifts with a bang. When slowing down to below 12 mph and then accelerating, the car remains in 4th gear and then shifts at about 12 to 15 mph by itself. I made all electrical and hydraulic tests and replaced the resistor and circuit breaker, solenoid, interrupter switch and governor points. I removed and inspected the gear box, but did not dismantle the oil pump; nothing was damaged or worn. I changed the complete governor and improved the condition. Now, if I stop the car for five or ten minutes, with the ignition off, it's alright for awhile. When this happens, the kick down button doesn't work either. But, if you hold the button down while accelerating, it will down shift when you reach 28 mph.

Werner G. Maeder, Jr.
Briarwood, Jamaica, N. Y.

I AM inclined to think that the trouble is due to the direct speed rail piston sticking in the cylinder, preventing forward movement of the rail and fork to complete the shift, or causing a delay in the completion of the shift. If that's the case, the trouble would be caused by foreign material.

To remedy, the transmission should be cleaned and flushed and any burrs or scuff marks on the



pistons and bore should be smoothed up. The idle speed should be set from 450 to 475 rpm. This adjustment is very important, because if the engine doesn't return to normal idling speed when the foot throttle is released, sufficient reverse torque to complete the shift is not obtained.

Wants to Increase H.P. on Farmall Tractor

I would like to know how much can be ground off a Farmall H. & M. cylinder head without causing interference. Also, what change would it make in the performance of the tractor?

Dale Salmons
Dale's Garage
Galveston, Ind.

I WOULD suggest planing or milling .110-in. off the head. This should give you about five additional horsepower and will not cause any interference.

Can New Type Dynaflow Be Put in a 1951 Buick?

Could you tell me if the twin turbine unit introduced in the 1953 straight Buick 8 could be installed in a 1951 Super, with Dynaflow?

E. H. Merchant
Davis & Merchant
Powhatan, Va.

THIS can be done, but it would necessitate installing a complete unit, including the flywheel housing. Then it would be necessary to install a new drive shaft and torque tube to make up for the added length of the twin turbine. The complete change over would cost close to $500.

MOTOR AGE FLAT RATE AND SERVICE MANUAL

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of March 26, 1954
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK				
Special 40				
Sedan, DeL., 2d	2010	197	2207	.....
Sedan, DeL., 4d	2064	201	2265	.....
Riviera Cpe.	2102	203	2305	.....
Conv. Cpe.	2343	220	2563	.....
Est. Wagon	2900	263	3163	.....
Century 60				
Sedan, DeL., 4d	2288	232	2520	.....
Riviera Cpe.	2301	233	2534	.....
Conv. Cpe.	.....	.....	.....	.....
Est. Wagon	3172	298	3470	.....
Super 50				
Riviera Cpe.	2387	239	2626	4035
Riviera Sed., 4d	2466	245	2711	4105
Conv. Cpe.	2701	263	2964	4145
Roadmstr. 70				
Riviera Sed., 4d	2971	298	3269	4250
Riviera Cpe.	3068	305	3373	4215
Conv. Cpe.	3205	316	3521	4355
Skylark 100				
Sports Conv.	4100	383	4483	.....
CADILLAC				
Series 62				
Coupe	.....	.....	3838	4347
Sedan	.....	.....	3933	4330
Convertible	.....	.....	4404	4598
Coupe De Ville	.....	.....	4261	4409
Eldorado	.....	.....	5738	4809
Series 60				
Sedan	.....	.....	4683	4490
Series 75				
Fltwd. Sedan	.....	.....	5875	5031
Fltwd. Imp.	.....	.....	6090	5093
CHEVROLET				
Special 1500-A				
Util. Sedan	1400	139	1539	3145
Sedan, 2d	1479	144	1623	3165
Sedan, 4d	1530	150	1680	3210
Station Wagon	1845	175	2020	3455
DeLuxe 2100				
Sedan, 2d	1564	153	1717	3185
Sedan, 4d	1615	156	1771	3230
Delray Coupe	1625	157	1782	3185
Station Wagon	1950	183	2133	3470
Bel Air 2400				
Sedan, 2d	1669	161	1830	3220
Sedan, 4d	1720	164	1884	3255
Sport Coupe	1883	178	2061	3300
Convertible	1998	187	2185	3445
Station Wagon	2090	193	2283	3540
Corvette 2900				
Convertible	3250	273	3523	2705
CHRYSLER‡				
Wind. DeL. 6				
Club Coupe	2330	181	2511	3565
Sedan, 4d, 6p	2350	182	2532	3655
Newport	2600	201	2801	3685
Conv. Coupe	2800	216	3016	3915
Twn. & Cty.	3056	235	3291	3955
Sedan, 4d, 8p	3215	247	3462	4185
New Yorker 8				
Club Coupe	2940	227	3167	3910
Sedan, 4d, 6p	2965	229	3194	3970
Newport	3220	248	3468	4005
Twn. & Cty.	3705	284	3989	4245
Sedan, 4d, 8p	4025	308	4333	4450
N. Y. DeL. 8				
Club Coupe	3130	241	3371	4005
Sedan, 4d, 6p	3155	243	3398	4065
Newport	3410	262	3672	4095
Conv. Coupe	3625	278	3903	4265
Cust. Imp. 8				
Sedan, 4d, 6p	3925	300	4225	4355
Newport	4205	320	4525	4345
Town Limos'n	4425	337	4762	4480
Crown Imp. 8				
Sedan, 4d, 8p	6406	466	6872	.....
Limousine, 8p	6520	474	6994	5255
DE SOTO‡				
Powermaster 6				
Club Coupe	2166	168	2334	3525
Sedan, 4d, 6p	2188	170	2356	3590
Stat. Wagon	2857	221	3078	3875
Sedan, 4d, 8p	3018	233	3251	4120
Firedome 8				
Club Coupe	2433	188	2621	3685
Sedan, 4d, 6p	2453	190	2643	3750
Sportsman	2685	207	2892	3775
Conv. Coupe	2891	223	3114	3995
Stat. Wagon	3111	240	3351	4025
Sedan, 8p	3276	253	3529	4275

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
DODGE‡				
Mdowbrk. 6				
Club Coupe	1816	142	1958	3125
Sedan, 4d	1855	145	2000	3170
Coronet 6				
Club Coupe	1933	151	2084	3165
Sedan, 4d	1958	153	2111	3235
Suburban	2044	160	2204	3185
Sierra, 2 seat	.....	.....	.....	3430
Sierra, 3 seat	.....	.....	.....	3435
Mdowbrk. 8				
Club Coupe	1975	154	2129	3320
Sedan, 4d	1995	156	2151	3375
Coronet 8				
Club Coupe	2039	159	2198	3345
Sedan, 4d	2059	161	2220	3405
Sport Coupe	2185	170	2355	3310
Conv. Coupe	2309	180	2489	3505
Suburban	2312	180	2492	3400
Sierra, 2 seat	.....	.....	.....	3605
Sierra, 3 seat	.....	.....	.....	3660
Royal 8				
Club Coupe	2156	168	2324	3365
Sedan, 4d	2178	170	2348	3425
Sport Coupe	2299	179	2478	3355
Conv. Coupe	2419	188	2607	3575
FORD				
Mainline 6				
Business Cpe.	1400	.....	.....	3021
Tudor Sedan	1496	.....	.....	3088
Fordor Sedan	1542	.....	.....	3142
Ranch Wagon	1846	.....	.....	3338
Customline 6				
Tudor Sedan	1582	.....	.....	3099
Club Coupe	1591	.....	.....	3080
Fordor Sedan	1628	.....	.....	3155
Ranch Wagon	1932	.....	.....	3344
Country Sedan	2006	.....	.....	3513
Crestline 6				
Fordor Sedan	1726	.....	.....	3159
Victoria	1870	.....	.....	3184
Sunliner	1972	.....	.....	3231
Skyliner	1972	.....	.....	3204
Country Squire	2133	.....	.....	3563
Mainliner 8				
Business Cpe.	1471	.....	.....	3142
Tudor Sedan	1567	.....	.....	3207
Fordor Sedan	1613	.....	.....	3263
Ranch Wagon	1917	.....	.....	3459
Customline 8				
Tudor Sedan	1653	.....	.....	3220
Club Coupe	1662	.....	.....	3201
Fordor Sedan	1699	.....	.....	3276
Ranch Wagon	2003	.....	.....	3465
Country Sedan	2077	.....	.....	3634
Crestline 8				
Fordor Sedan	1797	.....	.....	3280
Victoria	1941	.....	.....	3305
Sunliner	2043	.....	.....	3352
Skyliner	2043	.....	.....	3325
Country Squire	2204	.....	.....	3684
HENRY J				
Corsair				
Sedan, 2d	1286	118	1404	2395
DeL. Sed., 2d	1437	129	1566	2445
HUDSON				
Jet				
Sedan, 2d	1665	172	1837	2715
Sedan, 4d	1685	173	1858	2675
Super Jet				
Club Sedan	1755	178	1933	2710
Sedan, 4d	1775	179	1954	2725
Jet-Liner				
Club Sedan	1860	186	2046	NA
Sedan, 4d	1870	187	2057	2760
Wasp				
Club Sedan	2013	196	2209	3375
Club Coupe	2056	200	2256	3360
Sedan, 4d	2056	200	2256	3440
Super Wasp				
Club Sedan	2203	210	2413	3490
Club Coupe	2252	214	2466	3475
Sedan, 4d	2252	214	2466	3525
Hollywood	2473	231	2704	NA
Conv. Brghm.	NA	NA	NA	NA
Hornet				
Club Coupe	2505	237	2742	3570
Sedan, 4d	2530	239	2769	3620
Hollywood	2733	255	2988	NA
Conv. Brghm.	NA	NA	NA	NA

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
KAISER				
Special				
Club Sedan	2141	193	2334	.....
Sedan, 4d	2192	197	2389	3210
Manhattan				
Club Sedan	2404	213	2617	.....
Sedan, 4d	2453	217	2670	3375
Darrin	3368	300	3668	.....
LINCOLN				
Cosmopolitan				
Sedan, 4d	3226	.....	.....	4190
Sport Coupe	3322	.....	.....	4250
Capri				
Sedan, 4d	3402	.....	.....	4245
Hardtop	3549	.....	.....	4250
Convertible	3699	.....	.....	4450
MERCURY				
Custom				
Sedan, 2d	2004	.....	.....	3435
Sedan, 4d	2057	.....	.....	3480
Sport Coupe	2117	.....	.....	3485
Monterey				
Sedan, 4d	2133	.....	.....	3515
Coupe	2244	.....	.....	3520
Sun Valley	2365	.....	.....	3535
Convertible	2390	.....	.....	3620
Station Wagon	2545	.....	.....	3735
NASH				
Metropolitan				
Hardtop*	1330	115	1445	.....
Convertible*	1353	116	1469	.....
Rambler				
Deluxe				
Club Sedan, 2d	1414	136	1550	.....
Super				
Club Sedan, 2d	1553	147	1700	.....
Sedan, 4d	1641	154	1795	.....
Suburban, 2d	1646	154	1800	2555
C'try Club, 2d	1646	154	1800	.....
Custom				
Stat. Wag., 2d	1787	163	1950	2570
C'try Club, 2d	1787	163	1950	2550
Sedan, 4d	1802	163	1965	2665
Conv. Sed., 2d	1817	163	1980	2590
Cross C'try, 4d	1880	170	2050	.....
Statesman				
Super				
Sedan, 2d	1929	181	2110	3025
Sedan, 4d	1977	181	2158	3045
Custom				
Sedan, 4d	2139	193	2332	3070
C'try Club, 2d	2223	200	2423	3095
Ambassador				
Super				
Sedan, 2d	2163	202	2365	3410
Sedan, 4d	2215	202	2417	3430
Custom				
Sedan, 4d	2384	216	2600	3480
C'try Club, 2d	2510	225	2735	3550
OLDSMOBILE				
Series 88				
Sedan, 2d	2066	206	2272	3699
Sedan, 4d	2126	211	2337	3719
Holiday Cpe.	2230	219	2449	3721
Super 88				
Sedan, 2d	2189	221	2410	3729
Sedan, 4d	2252	225	2477	3780
DeL. Holiday	2488	240	2688	3775
Conv. Cpe.	2615	253	2868	4003
Series 98				
Sedan, 4d	2552	254	2806	3895
Holiday Cpe.	2570	256	2826	3851
DeL. Holiday	2771	271	3042	3938
Conv. Cpe.	2963	286	3249	4193
PACKARD				
Clipper				
Special				
Club Sedan, 2d	2332	212	2544	3585
De Luxe				
Club Sedan, 2d	2426	219	2645	3590
Sedan, 4d	2472	223	2695	3660
Sportster	2598	232	2830	3595
Cavalier				
Club Sedan, 2d	2537	228	2765	3610
Sedan, 4d	2584	231	2815	3695
Coupe	2872	253	3125	3805

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
PACKARD (Continued)				
Packard				
Sedan, 4d	3068	276	3344	3955
Coupe	3517	310	3827	4040
Patrician, 4d	3575	315	3890	4190
Conv. Cpe.	3618	317	3935	4260
Caribbean	5632	468	6100	4400
Sedan, 8p	6375	525	6900	4650
Limousine	6700	550	7250	4720
PLYMOUTH‡				
Plaza				
Bus. Coupe	1480	118	1598	2889
Club Sedan	1582	125	1707	2943
Sedan, 4d	1617	128	1745	3004
Suburban	1895	149	2044	3122
Savoy				
Club Sedan	1682	133	1815	2986
Club Coupe	1689	134	1823	2982
Sedan, 4d	1717	136	1853	3036
Belvedere				
Sedan, 4d	1792	141	1933	3050
Sport Coupe	1970	155	2125	3038
Suburban	2103	165	2268	3186
Conv. Coupe	2115	166	2281	3273
PONTIAC				
Chieftain 6				
Spec. Sedan, 2d	1788	182	1968	3331
Spec. Sedan, 4d	1843	184	2027	3391
DeL. Sedan, 2d	1885	187	2072	3351
DeL. Sedan, 4d	1940	191	2131	3406
DeL. Catalina	2112	204	2316	3421
Spec.St.Wg.,2st.	2156	208	2364	3601
Cus. Catalina	2174	208	2382	3421
Spec.St.Wg.,3st.	2207	212	2419	3691
DeL.St.Wg.,2st.	2286	218	2504	3646
Chieftain 8				
Spec. Sedan, 2d	1858	185	2043	3396
Spec. Sedan, 4d	1913	189	2102	3451
DeL. Sedan, 2d	1955	193	2148	3416
DeL. Sedan, 4d	2010	196	2206	3466
DeL. Catalina	2182	210	2392	3491
Spec.St.Wg.,2st.	2226	213	2439	3676
Cus. Catalina	2244	214	2458	3491
Spec.St.Wg.,3st.	2277	217	2494	3771
DeL.St.Wg.,2st.	2356	223	2579	3716
Star Chief 8				
DeL. Sedan, 4d.	2097	204	2301	3536
Cus. Sedan, 4d.	2184	210	2394	3536
Cus. Catalina	2335	222	2557	3551
DeL. Conv. Cpe.	2403	227	2630	3776
STUDEBAKER				
Champion				
Custom				
Sedan, 2d	1595	163	1758	2725
Sedan, 4d	1635	166	1801	2745
De Luxe				
Sedan, 2d	1705	170	1875	2730
Sedan, 4d	1745	173	1918	2765
Starlight Cpe.	1795	177	1972	2740
Conestoga	1995	192	2187	2930
Regal				
Sedan, 2d	1805	178	1983	2745
Sedan, 4d	1845	181	2026	2780
Starlight Cpe.	1895	185	2080	2750
Starliner	2045	196	2241	2825
Conestoga	2095	200	2295	2950
Commander				
De Luxe				
Sedan, 2d	1940	196	2136	3075
Sedan, 4d	1980	199	2179	3105
Starlight Cpe.	2030	203	2233	3085
Conestoga	2230	218	2448	3265
Regal				
Sedan, 4d	2080	207	2287	3120
Starlight Cpe.	2130	211	2341	3095
Land Cruiser	2220	218	2438	3180
Starliner	2280	222	2502	3175
Conestoga	2330	226	2556	3265
WILLYS				
Aero Lark				
Sedan, 2d	1589	148	1737	.....
Sedan, 4d	1669	154	1823	2661
Aero Ace				
Sedan, 2d	1735	157	1892	2751
Sedan, 4d	1805	163	1968	2778
Aero Eagle				
Hardtop	1990	177	2167	2847

‡ Prices do not include delivery and hanling charges. NA—Not available. * F.O.B. coastal port of entry.

Current Engine and Tune-up Specifications

MAKE AND MODEL	Wheelbase (In.)	ENGINE: No. of Cylinders, Bore and Stroke	ENGINE: Taxable H.P.	ENGINE: Piston Displacement (Cu. In.)	ENGINE: Maximum Brake H.P. at Specified R.P.M. (with Bare Engine)*	ENGINE: Compression Ratio	TUNE-UP DATA: Spark Plug Make and Type	Rings: No. and Width Compression	Rings: No. and Width Oil	VALVES: Seat Angle: Inlet	VALVES: Seat Angle: Exhaust	VALVES: Stem Diameter (In.) Inlet	VALVES: Operating Tappet Clearance: Inlet	VALVES: Operating Tappet Clearance: Exhaust	VALVES: Inlet Tappet Clearance for Valve Timing	VALVES: Timing: Deg. Inlet Opens Before or After T.C.	VALVES: Timing: Timing Marks Located	IGNITION: Breaker Point Gap	IGNITION: Cam Angle (Deg.)	IGNITION: Spark Plug Gap	IGNITION: Timing: Spark Occurs °TC	IGNITION: Timing: Timing Marks Located	Crankcase Capacity Refill (Qts.)	Cooling System Capacity (Qts.)	STEERING: Caster (Deg.)	STEERING: Camber (Deg.)	STEERING: Toe-In (In.)	STEERING: King Pin Inclination at Camber (Degrees)
Buick V8, 40	122	8-3 5/8x3.2	42.05	264.0	143-4200	7.2	AC-44-5	2-1/64	2-3/16	45	45	.372	AA	AA	.004(b)	25B	FP	.015	(d)	.033	5B	FP	6	16½(e	¾N to ½P	⅝N to ⅞P	0 to 1/16	0
V8, 60	122	8-4x3.2	51.20	322.0	195-4100	8.0	AC-44-5	2-1/64	2-3/16	45	45	.372	AA	AA	.004(b)	25B	VD	.015	....	.033	5B	VD	6	16½(e	¾N to ½P	⅝N to ⅞P	0 to 1/16	0
V8, 50	127	8-4x3.2	51.20	322.0	177-4100	8.0	AC-44-5	2-1/64	1-3/16	45	45	.372	AA	AA	.004(b)	25B	VD	.015	(d)	.033	5B	VD	6	16½(e	¾N to ½P	⅝N to ⅞P	0 to 1/16	0
V8, 70	127	8-4x3.2	51.20	322.0	200-4100	8.5	AC-44-5	2-1/64	1-3/16	45	45	.372	AA	AA	.004(b)	25B	VD	.015	(d)	.033	5B	VD	6	18½	¾N to ½P	⅝N to ⅞P	0 to 1/16	0
Cadillac V8, 62	129	8-3 13/16x3⅝	46.50	331.0	230-4400	8.3	AC-46-5	2-1/64	1-3/16	44	44	.342	AA	AA	.....	22B	VD	.019	31*	.035	5B	CB	5	19¾	0 to 1N	⅜N to ⅜P	1/16 to ¼	5°51′
V8, 60	133	8-3 13/16x3⅝	46.50	331.0	230-4400	8.3	AC-46-5	2-1/64	1-3/16	44	44	.342	AA	AA	.....	22B	VD	.019	31	.035	5B	CB	5	19¾	0 to 1N	⅜N to ⅜P	1/16 to ¼	5°51′
V8, 75	149 13/16	8-3 13/16x3⅝	46.50	331.0	230-4400	8.3	AC-46-5	2-1/64	1-3/16	44	44	.342	AA	AA	.....	22B	VD	.019	31	.035	5B	CB	5	19¾	0 to 1N	⅜N to ⅜P	1/16 to ¼	5°51′
Chevrolet 6-1500, 2100, 2400	115	6-3 9/16x3 11/16	30.40	235.5	115-3700	7.5	AC-44-5	2-1/32	1-1/16	31	46	.341	.010H	.020H	.....	1A	Fly	.015	42	.036	2A	Fly	5	16	0 to 1P	0 to 1P	1/16 to 1/16	3½-4½
6-1500, 2100, 2400*	115	6-3 9/16x3 11/16	30.40	235.5	125-4000	7.5	AC-44-5	2-1/32	1-1/16	31	46	.341	AA	AA	.....	10½B	Fly	.015	42	.036	2A	Fly	5	16	0 to 1P	0 to 1P	1/16 to 1/16	3½-4½
2900	102	6-3 9/16x3 11/16	30.40	235.5	150-4200	8.0	AC-44-5	2-1/32	1-1/16	31	45	.341	.010H	.020H	.....	19½B	Fly	.016	44	.036	2A	Fly	5	17¾	0 to 1P	0 to 1P	0 to ⅛	3½-4½
Chrysler 6, C-62	125½	6-3 7/16x4¾	28.36	264.5	119-3600	7.0	AL-4S140	2-3/32	2-3/32	45	45	.341	.008H	.010H	.014	12B	VD	.019	39	.035	TC	VD	5	15	1N to 3N	⅜N to ⅜P (h)	0 to 1/16	5-6½
V8, C63, C64, C66	(g)	8-3 1/8x3⅝	46.51	331.1	(o)	7.5	AL-4GS150	2-1/64	1-1/16	45	45	.373	AA	AA	VTS	15B	VD	.017	34	.035	4B	VD	5	25	1N to 3N	⅜N to ⅜P (h)	0 to 1/16	(t)
De Soto 6, S-20	125½	6-3 7/16x4½	28.36	250.6	116-3600	7.0	AL-4S140	2-3/32	2-3/32	45	45	.341	.008H	.010H	.014	12B	VD	.019	39	.035	2B	VD	5	15	1N to 3N	⅜N to ⅜P (h)	0 to 1/16	5½
V8, S-19	125½	8-3⅝x3 11/16	42.05	276.1	170-4400	7.5	AL-4S140	2-1/64	1-1/16	45	45	.373	AA	AA	VTS	12B	VD	.017	34	.035	4B	VD	5	22	1N to 3N	⅜N to ⅜P (h)	0 to 1/16	5½
Dodge 6, D-51, D-52	(r)	6-3¼x4⅝	25.35	230.2	110-3600	7.3	AL-4S140	2-3/32	2-3/32	45	45	.341	.010H	.010H	.014	12B	(s)	.020	39	.035	2B	(s)	5	14	1N to 1P	⅜N to ⅜P (h)	0 to 1/16	5½
V8, D-50, D-53	(r)	8-3 7/16x3¼	37.80	241.3	(i)	(l)	AL-4S140	2-1/64	1-1/16	45	45	.373	AA	AA	VTS	17B	FP	.017	34	.035	4B	FP	5	19	1N to 1P	⅜N to ⅜P (h)	0 to 1/16	5½
Ford 6	115½	6-3.62x3.6	31.50	223.0	115-3900	7.2	CH-H-10	2-3/32	1-1/16	45	45	.342	.015H	.019H	.013	13B	VD	.025	37	.035	3B	VD	4	15	0 to 1P	0 to 1P	1/16 to ⅛	7°7′
V8	115½	8-3½x3.1	39.20	239.0	130-4200	7.2	CH-H-10	2-3/32	1-1/16	45	45	.342	.019H	.019H	(y)	8B	FP	.015	27	.035	6B	FP	5	20	0 to 1P	0 to 1P	1/16 to ⅛	7°7′
Henry J 4, 543	100	4-3⅛x4⅛	15.63	134.2	68-4000	7.0	AL-A7	2-3/32	1-1/16	45	45	.373	.016C	.016C	.020	9B	FP	.022	30	.030	5B	FP	4	10.8	1N to 1P	¼P to 1P	1/32 to ¼	4-4¾
6, 544	100	6-3⅛x3½	23.40	161.0	80-3800	7.0	AL-A7	2-3/32	1-1/16	45	45	.341	.016C	.016C	.020	5B	VD	.022	34	.030	5B	VD	5	9½	1N to 1P	¼P to 1P	1/32 to ¼	4-4¾
Hudson 6, 1D, 2D, 3D	105	6-3x4¾	21.60	202.0	104-4000	7.5	CH-H-10	2-1/64	2-(j)	45	46	.342	.010H	.012H	.010	26.8B	VD	.020	39	.032	TC	VD	5	15	½P to 1½P	¼P to 1¼P	0 to 1/16	4
6, 4D	119⅞	6-3 5/16x3⅞	30.45	232.0	126-4400	7.0	CH-H-10	2-1/64	2-(j)	45	45	.342	.008H	.010H	.008	33.7B	Fly	.020	39	.032	TC	Fly	7	18½	½P to 1½P	½P to 1½P	0 to 1/16	3°36′
6, 5D	119⅞	6-3 5/16x4⅜	30.45	262.0	140-4000	7.0	CH-H-10	2-1/64	2-(j)	45	45	.342	.008H	.010H	.008	33.7B	Fly	.020	39	.032	TC	Fly	7	18½	½P to 1½P	½P to 1½P	0 to 1/16	3°36′
6, 7D	123⅞	6-3 13/16x4½	34.88	308.0	160-3800	7.5	CH-H-11	2-1/64	2-(j)	45	45	.342	.008H	.010H	.008	33.7B	Fly	.020	39	.032	TC	Fly	7	18½	½P to 1½P	½P to 1½P	0 to 1/16	3°36′
Kaiser 6, 542	118½	6-3 5/16x4⅜	26.30	226.2	140-3800	7.3	AL-A-7	2-3/32	2-3/32	30	45	.341	.014C	.014C	.018	10B	VD	.016	42	.030	4B	VD	5	12½	1N to 1P	0 to ¾P	1/16 to ⅛	4¾-5½
6, 545	118½	6-3 5/16x4⅜	26.30	226.2	118-3650	7.3	AL-A-7	2-3/32	2-3/32	30	45	.341	.014C	.014C	.018	10B	VD	.022	34	.030	4B	VD	5	12½	1N to 1P	0 to ¾P	1/16 to ⅛	4¾-5½
Lincoln V8	123	8-3.8x3½	46.20	317.0	205-4200	8.0	CH-H-10	2-1/64	1-1/16	45	45	.342	AA	AA	.....	18B	VD	.015	27	.035	3B	VD	5	22½	0 to 1½N	0 to ¾P	1/32 to 1/32	7⅙
Mercury V8	118	8-3.62x3.1	42.05	256.0	161-4400	7.5	CH-H-10	2-3/32	1-1/16	45	45	.342	.019H	.019H	(f)	15B	FP	.015	27	.031	3B	FP	5	19	0 to 1½N	0 to ¾P	1/32 to 1/32	7¾
Nash 6, 5410	100	6-3⅛x4	23.44	184.0	85-3800	7.3	AL-A7-A	2-3/32	2-3/32	45	45	.341	.015H	.015H	.015	10B	VD	.022	34	.030	TC	VD	4	11	¾P to 1¼P	¼P to ¾P	⅛ to ¼	8
6, 5410†	▲	6-3⅛x4¼	23.44	195.6	90-3800	7.3	AL-A7-A	2-3/32	2-3/32	45	45	.341	.015H	.015H	.015	10B	VD	.022	34	.030	4A	VD	4	11	¾P to 1¼P	¼P to ¾P	⅛ to ¼	8
6, 5440	114¼	6-3⅛x4¼	23.44	195.6	110-4000	8.5	AL-AL-5B	2-3/32	2-3/32	45	45	.341	.015H	.015H	.015	10B	VD	.022	34	.030	4A	VD	4	14	0 to ½P	¼N to ¼P	1/16 to 1/16	6½
6, 5460	121¼	6-3½x4⅜	29.40	252.6	130-3700	7.6	AL-A7-A	2-3/32	2-3/32	30	45	.373	.012H	.016H	.023	12½B	VD	.022	34	.030	TC	VD	6	17	0 to ½P	¼N to ¼P	1/16 to 1/16	6½
Metropolitan	85	4-2 47/64x3½	10.63	73.1	42-4500	7.2	CH-N8B	3-1/64	1-3/32	45	45	.309	.015C	.015C	.015	5B	.....	.015	....	.023	7B	FP	4	7½	2 to 3	½ to 1½	0 to 1/16	6½
Oldsmobile V8, 88	122	8-3 7/8x3 7/16	48.00	324.3	170-4000	8.3	AC-46-5	2-1/64	1-3/64	45	45	.342	AA	AA	.....	13½B	FP	.016	30	.030	5B	FP	5	20½	0 to ¾N	¼N to ¾P	1/16 to ⅛	5°51′10″
V8, Super 88	122	8-3 7/8x3 7/16	48.00	324.3	185-4000	8.3	AC-46-5	2-1/64	1-3/64	45	45	.342	AA	AA	.....	13½B	VD	.016	30	.030	5B	FP	5	20½	0 to ¾N	¼N to ¾P	1/16 to ⅛	5°51′10″
V8, 98	126	8-3 7/8x3 7/16	48.00	324.3	185-4000	8.3	AC-46-5	2-1/64	1-3/64	45	45	.342	AA	AA	.....	13½B	VD	.016	30	.030	5B	FP	5	20½	0 to ¾N	¼N to ¾P	1/16 to ⅛	5°51′10″
Packard 8-5400	122	8-3½x3¾	39.20	288.0	150-4000	7.7	CH-J-8	2-3/32	1-1/16	30	45	.342	.007H	.010H	.012	15B	VD	.015	25	.026	6B	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
8-5401, 5411	122	8-3½x4¼	39.20	327.0	165-3600	8.0	CH-J-8	2-3/32	1-1/16	30	35	.342	.007H	.010H	.012	10B	VD	.015	(n)	.026	6B	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
8-5402	127	8-3½x4¼	39.20	327.0	185-4000	8.0	CH-J-8	2-3/32	1-1/16	30	45	.342	AA	AA	No	10B	VD	.015	31	.026	6B	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
8-5431	127	8-3 5/16x4½	40.60	359.0	212-4000	8.7	CH-J-8	2-1/64	1-1/16	30	45	.342	AA	AA	No	22B	VD	.015	31	.026	TC	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
8-5406	127	8-3 5/16x4½	40.60	359.0	212-4000	8.7	CH-J-8	2-1/64	1-1/16	30	45	.342	AA	AA	No	22B	VD	.015	31	.026	TC	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
8-5426	149	8-3 5/16x4½	40.60	359.0	212-4000	8.7	CH-J-8	2-1/64	1-1/16	30	45	.342	AA	AA	No	22B	VD	.015	31	.026	TC	VD	7	19.9	½N to 1½N	¼N to ¾P	0 to 1/16	5⅚
Plymouth 6, P-25 Early	114	6-3¼x4⅝	25.35	217.8	100-3600	7.1	AL-4S140	2-3/32	2-3/32	45	45	.341	.010H	.010H	.014	12B	FP	.020	39	.035	2B	FP	5	13	1N to 1P	⅜N to ⅜P (h)	0 to 1/16	5-6½
6, P-25 Late	114	6-3¼x4⅝	25.35	230.2	110-3600	7.3	AL-4S140	2-3/32	2-3/32	45	45	.341	.010H	.010H	.014	12B	FP	.020	39	.035	2B	FP	5	13	1N to 1P	⅜N to ⅜P (h)	0-1/16	5-6½
Pontiac 6, 25	122	6-3 5/16x4	30.46	239.2	(u)	(w)	AC-44-5	2-1/64	1-1/16	30	45	.311	.012H	.012H	.015C	12½B	VD	.016	26	.026	3B	VD	5	18⅛	¼N to ¼P	0 to ½P	0 to 1/16	.....
8, 27, 28	(k)	8-3⅝x3¾	36.45	268.4	(v)	(x)	AC-44-5	2-3/32	1-1/16	30	45	.311	.012H	.012H	.015C	5B	VD	.016	26	.026	††	VD	5	18¾	¼N to ¼P	0 to ½P	0 to 1/16	.....
Studebaker 6, 15G	●	6-3x4	21.60	169.6	85-4000	7.5	CH-J7	2-(q)	1-3/32	45	45	.313	.016C	.016C	.020	15B	VD	.020	39	.031	2B	VD	5	10	1N to 2½N	0 to 1P	1/16 to ⅛	6
V8, 5H, 5HY	▼	8-3⅝x3¼	36.40	232.6	127-4000	7.5	CH-H11	2-1/64	1-1/16	45	45	.344	.024C	.024C	.030	11B	VD	.013	31	.036	4B	VD	6	17¼	1N to 2½N	0 to 1P	1/16 to ⅛	6
Willys 6, 6-226	108	6-3 5/16x4⅜	26.33	226.2	115-3650	7.3	CH-J8	2-3/32	2-3/32	30	45	.314	.014C	.014C	.018	10B	VD	.020	39	.030	5B	VD	5	13	½P to 1½P	¾P to 1¼P	1/32 to 3/32	8¼
6, Lark	108	6-3⅛x3½	23.40	161.0	90-4200	7.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

ABBREVIATIONS

*—Powerglide chassis model available at extra cost.
†—Hydramatic chassis model available at extra cost.
▲—100; 108.
††—6B with std. trans.; 3B with Hydra.
●—15G, 116½ and 120½.
▼—5H, 116½ and 120½; 5HY, 120½.
(b)—Off seat.
(d)—Dwell meter for setting point opening is not recommeded.
(e)—18½ when equipped with Dynaflow transmission.
(f)—.017 opening; .018 closing.
(g)—C-63, 125½; C-64-4 dr., 133½ and Newport, 131½; C-66, 145½.
(h)—Left side to be ¼° to ½° higher than right side, within these limits.
(i)—140-4400 on D50-1; 150-4400 on D50-2, 3 and D53.
(j)—Upper 1/16; lower 1/32.
(k)—122 on 27; 124 on 28.
(l)—7.1 on D50-1; 7.5 on D50-2,3; D53.
(n)—5401, 27; 5411, 31.
(o)—C-63-1, 195-4400; C-63-2, C-64, C-66, 235-4400.
(q)—Top—1/64; bottom—⅛.
(r)—114 on D52-2 dr. and D53; 119 on D50, D51, D52-4 dr.
(s)—VD on D51-2; FP on D51-1, D52.
(t)—C-63. 64, 5-6½; C-66, 6½-8.
(u)—115-3800 with std. trans.; 118-3800 with Hydra.
(v)—122-3800 with std. trans.; 127-3800 with Hydra.
(w)—7.0 with std. trans.; 7.7 with Hydra.
(x)—6.8 with std. trans.; 7.7 with Hydra.
(y)—.015 opening; .019 closing.
A—After. AA—Automatic adjustment.
AC—AC Spark Plug Co.
AL—The Electric Autolite Co.
B—Before. C—Cold.
CB—Crankshaft balancer.
CH—Champion Spark Plug Co.
Fly—Flywheel.
FP—Crankshaft fan drive pulley.
H—Hot.
N—Negative.
P—Positive.
TC—Top center.
VD—Vibration damper.
VTS—Valve train solid.

Above. Classroom work covers theoretical studies, troubleshooting and subjects which can be covered with books and slides. Right. Practical experience is derived from a well equipped service shop. Lower right. The Boys' Town school also has a body shop including the latest spray booth.

If you are looking for a source of good auto mechanics, take a look into Boys' Town, where students learn all phases of automotive repair

Well-Trained Mechanics Come From BOYS TOWN

IN the brief span of 36 years, Boys Town has become a famous institution. It was founded by the late Father Flanagan in 1917. Then, the home was a rented Omaha, Nebraska, residence where five boys were cared for. Far cry indeed from the incorporated village that is today's Boys Town.

About 80% of the high school age boys take vocational training at Boys Town. The program is under the direction of Peter F. Mulready, who has a fine teaching staff to work with. The new building in which the department is housed is one of the best designed and best equipped of its type in the nation.

The auto mechanics course covers engine over-

(*Continued on page* 139)

New PRODUCTS SHOW WINDOW

FOR FURTHER INFORMATION USE POSTCARD FACING NEXT PAGE

216. Tester

Fisher Products: The MoTest Recording compression tester provides on a chart an instantaneous and permanent record of cylinder compression. The Model No. 285 accommodates up to eight cylinders. The MoTest Kit includes, in

addition to the basic instrument, an angular adaptor (for V-8's, etc.), and extension adaptor, a supply of recording charts, square rubber cones and valves.

217. Transmission Tools

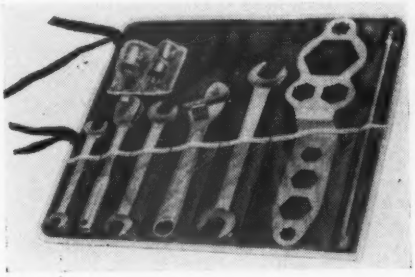
New Britain Machine Co.: A new family of tools for servicing automatic transmissions includes tools for Hydra-matic, Dynaflow and Powerglide, Fordomatic and Mercomatic. Of particular interest is the Hydra-matic External Band Adjusting Tool which permits adjustment of both front and rear bands without removal of the transmission oil pan. Also for Hydra-matic are tools for internal adjustment of front and rear bands. All tools are made of alloy steel and triple plate chrome finish. Each tool is packed complete with illustrated instructions for use.

218. Exhaust Extension

Walker Mfg. Co. of Wisconsin: A chrome finished Exhaust Extension, known as the No. 150 Sportster, is designed to stylize any car and protect the body and bumper from corrosive exhaust fumes, and will be available in one universal size to fit all cars and all tail pipes from 1½" to 2¼".

219. Filter Service

Wix Corp.: A new Oil Filter Service Tool Kit is especially designed to service oil filters on modern cars, including the hard-to-reach filters on Oldsmobiles, '54 Mercurys, Lincolns and V-8 Dodges, as well as all cars with more accessible filters. The new kit contains 9 first quality, mechanics' tools, of alloy steel with



chrome finish, in a waterproof plastic kit roll, including universal drain plug wrench, 8" adjustable wrench, 3 open end wrenches (9/16" x ⅝", ¾" x ⅞", ½" x 7/16"), plus the following ⅜" drive sockets and drive parts: ⅝" flex socket, ¾" 12-point socket, 7" reversible ratchet and 11" extension bar.

220. New Tools

Bonney Forge & Tool Works: An aluminum hammer and an abra-

sive file are currently featured in Bonney Forge & Tool Works' "New Tools First" program. Tips for head of hammer are interchangeable; come in plastic, copper and other metals. Special "I" beam handle construction eliminates vibration and sting. The abrasive file employs replaceable abrasive rolls for quick change and renewed cutting face.

221. Oil Seal Cabinet

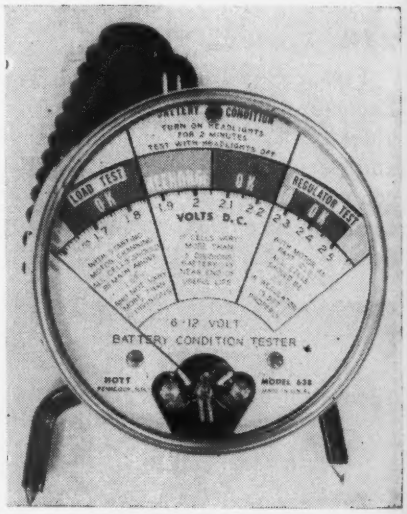
National Motor Bearing Co., Inc.: A new oil seal service stock cabinet has each bin correctly

(Continued on page 68)

sized for the stock each should hold, and each bears a part number identifying the seals contained. Inventory and ordering are speeded, and a glance at the cabinet tells when certain numbers are low or out of stock. National Order-matic Oil Seal cabinets are made of heavy gauge steel, finished in bright red baked enamel. Order-matic cabinets, complete with interchange and catalog information, are supplied free to dealers at the time a stock is purchased.

222. Battery Tester

Burton-Rogers Co.: A new Battery Tester, No. 638, for both 6- and 12-volt batteries, consists of a long-scale Voltmeter in gold-colored anodized finish, and a double-prod Probe connected to the Meter by a self-coiling, rubber insulated wire. The Meter has an expanded scale for quick, easy reading, and clearly defined color blocks showing battery conditions during (1) "No-Load" tests when battery is in the car or on the bench, (2) "Load" tests using starter. A third portion of the scale provides for tests of Voltage Regulator setting made with engine running and generator charging. Curved hanger on rear of Meter fits over head, helps hold Meter securely during



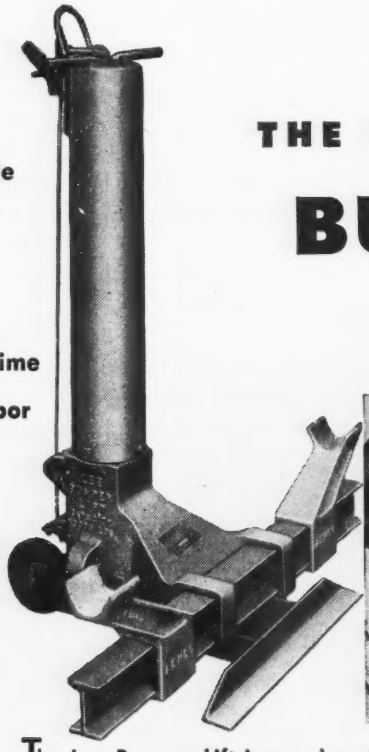
tests, or permits Meter to hang on any convenient projection on the car or in the shop.

223. Rules and Gages

The Central Tool Company: New rules and gages which round out Central Tool's line of "Certified Accuracy" micrometers and tools have been announced. One of the new thickness gages of particular interest to auto mechanics is a special gage for setting ignition and distributor points. An adjustable angle depth gage furnished with rod and rule, and a slide caliper rule for inside or outside measurements, are included in the new additions to the line.

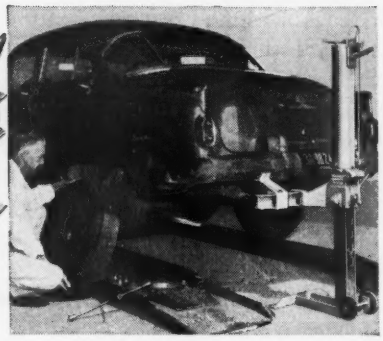
224. Indicator Light

Champ-Items: A Power Glide Indicator Light for 1950-54 Chevrolet Power-Glide Models is said to be easy to install and makes the indicator letters stand out at night for easier, safer driving.



THE NEW LEE BUMPER LIFT

Versatile
Safe
Stable
Sturdy
Saves Time
and Labor



The Lee Bumper Lift is an air actuated bumper lift for use in tire shops, service departments and service stations . . . wherever a bumper lift is needed.

Versatile! Ideal for tire and wheel work, checking brakes, removing pinions, lubricating springs and shackles, wheel bearings work, etc. —whenever a car's wheels should be clear of the fender skirts. Safe! Automatic mechanical latch prevents accidental lowering, locks in any of 6 convenient heights. Broad base lifting fingers hold bumper at brackets securely. Stable! Broad reinforced steel channel base prevents car from rocking or tilting. Sturdy! Entirely constructed of heavy gauge steel. Saves Time and Labor! Air pressure does the lifting, cuts setup time as much as 50%. Lift is easily moved on neoprene-tired wheels.

See the LEE Bumper and End Lift in action at booths 216-222, Tri-State Regional show, Pittsburgh, April 27-30.

3000 lb. capacity. Max. lifting height 32". Lifting fingers adjust from 5" to 44" wide.

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216. Tester	224. Indicator Light	231. Engine Booklet
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218. Exhaust Extension	226. Parts Catalog	233. Plug Service
219. Filter Service	227. Sales Brochure	234. Key Safe
220. New Tools	228. Tire Truing Bulletin	235. Free Sample
221. Oil Seal Cabinet	229. Building Maintenance Folder	236. Display Rack
222. Battery Tester	230. "Build Your Own" Welder Book	
223. Rules and Gages		

Your Name .....Your Title .....

Your Company .....

Jobber .....Independent.....Dealer .....

Address .....(Street & No.) .....(City) .....(Zone) .....(State)

Postcard valid for 90 days only.

Frank P. Tighe, EDITOR MOTOR AGE
P. O. Box 76, Village Station, N. Y. 14, N. Y. 4/54

Please send me further information on the New Products, the code numbers of which I have circled below

216. Tester	224. Indicator Light	231. Engine Booklet
217. Transmission Tools	225. Tool Catalog	232. 1954 Model Paint
218. Exhaust Extension	226. Parts Catalog	233. Plug Service
219. Filter Service	227. Sales Brochure	234. Key Safe
220. New Tools	228. Tire Truing Bulletin	235. Free Sample
221. Oil Seal Cabinet	229. Building Maintenance Folder	236. Display Rack
222. Battery Tester	230. "Build Your Own" Welder Book	237. Spring Pliers
223. Rules and Gages		

Your Name .....Your Title .....

Your Company .....

Jobber .....Independent.....Dealer .....

Address .....(Street & No.) .....(City) .....(Zone) .....(State)

New Literature

225. Tool Catalog

Xcelite, Inc.: A new illustrated color catalog of Xcelite screwdrivers, nut drivers and pliers is now available. It illustrates all screwdriver points (regular, Phillips, Frearson, clutch, etc.) and nut driver sockets "life-size," listing blade lengths available with each size.

Besides the regular line of tools known widely to the trade, the catalog introduces new tools and tool displays.

226. Parts Catalog

Champ-Items, Inc.: This company is observing its 25th anniversary with the release of its New Catalog No. 54 featuring new and popular Champ-Items.

(Continued on next page)

FIRST CLASS
PERMIT No. 36
Sec. 34.9, P. L. & R.
New York, N. Y.

BUSINESS REPLY CARD
NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY

Chilton's MOTOR AGE
P. O. Box 76,
Village Station,
New York 14, N. Y.

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FIRST CLASS
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P. O. Box 76,
Village Station,
New York 14, N. Y.

Readers Service Dept.

New Products . . . . .

Continued from Page 69

227. Sales Brochure

Purolator Products, Inc.: "Profits Galore in '54," a sales brochure just issued by Purolator Products, Inc., contains the story of Purolator merchandising plans for 1954. The four-color brochure describes the selling tools which back up the company's current sales campaign. The inside cover of the new sales brochure features a pocket for storage of related mailing pieces that will be produced during the coming year.

228. Tire Truing Bulletin

Bear Mfg. Co.: An illustrated bulletin has been published about this newest extra-profit service. It describes "Bear Balantru" Service which makes it possible to do both tire retruing and wheel balancing with just one mounting operation.

229. Building Maintenance Folder

Stonhard Co.: A new folder tells how to solve dangerous and unsightly floor conditions; how to patch or overlay concrete areas that have been ruined by acid, grease, oil or excessive wear; how to harden concrete surfaces and eliminate "concrete dusting"; how to prevent water-seepage and active water leaks in basements, underground foundations, elevator pits, tunnels, dams and reservoirs; how to seal roof leaks and rejuvenate dried out roof areas.

230. "Build Your Own" Welder Book

The Hobart Brothers Company: A new 48-page book titled "How To Build Your Own Gas Drive Welder" is available from Hobart Brothers Co. This book takes the reader through a progressive step by step plan, showing actual photographs, plans and ideas for the welding operator who wishes to build his own portable gas drive arc welder.

231. Engine Booklet

Speed O Motive: This firm features a com-plete selection of custom made pistons for every purpose and every car. They offer a free copy of "Piston Power," which gives facts about automobile engines.

(*Continued on page* 126)

Chi

ONLY STUDEBAKER DEALERS HAVE A REAL DREAM CAR FOR IMMEDIATE DELIVERY!

This is it! America's most beautiful sports car!

Not something for the future! Not just for display! This is a car actually being sold in volume day after day!

No wonder foresighted dealers like to be Studebaker dealers!

STUDEBAKER AMERICA'S FRIENDLIEST FACTORY

Shop Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars. All submissions become the property of Chilton Company. Because of the numbers received, no entries can be returned.

For The Best Kink Published Each Month . . . $25

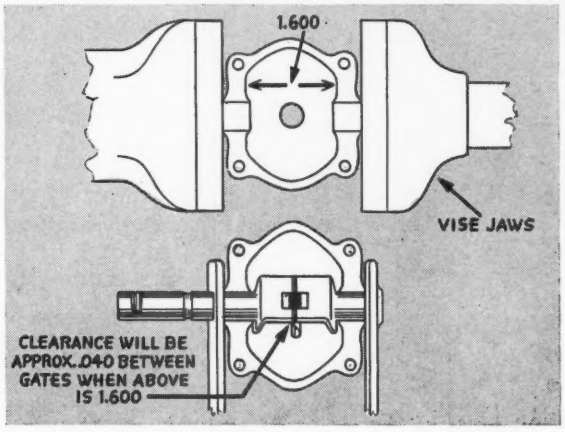
For All Kinks Published Each Month . . . $7.50

Shop Made Own Substitute For a Rear Axle Housing

We made our own substitute for a rear axle housing. Turn the axle shaft end true and remove the inner grease retainer. Turn the collar to fit the retainer hole and bore out the same to fit the turned portion of the axle shaft in order to support and position the shaft. Turn a collar to use as a boring head to fit on the shaft. Turn the axle shaft (with an air drill for faster work) three or four times, then relieve the set screw for additional feed, and repeat until the hole is trued up. Make a steel bushing to bring the hole back to the original size and insert a new bearing cup. *Frank L. Megnin, Central Garage, Myrtle Ave., Allendale, N. J.*

Hydraulic Lifters Removed On All 1949-53 Cadillacs

Here is a tool that will remove hydraulic lifters on all 1949-53 Cadillacs. Cut a piece of conduit 10 in. long and 15/160 D. Cut one end of it 1 in. long. When grinding valves without removing the top center cover, just tap the tool on the lifter, twist and turn, pulling upward at the same time. *Manuel Saludes, c/o Gus Stuckert's Service Garage, 1433 Broadway, Fresno, Calif.*



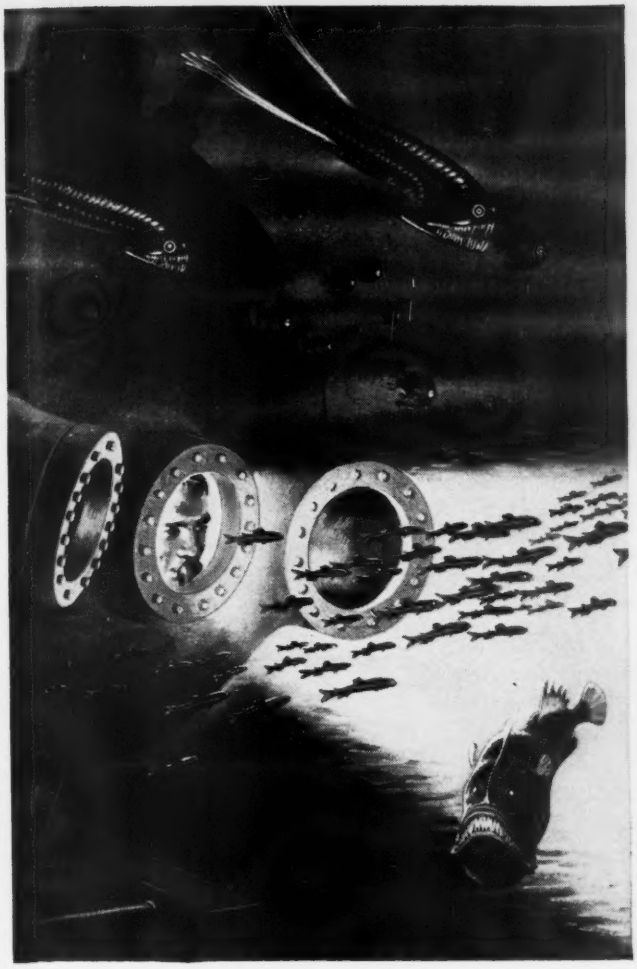
Correcting Chevrolet Shift Troubles

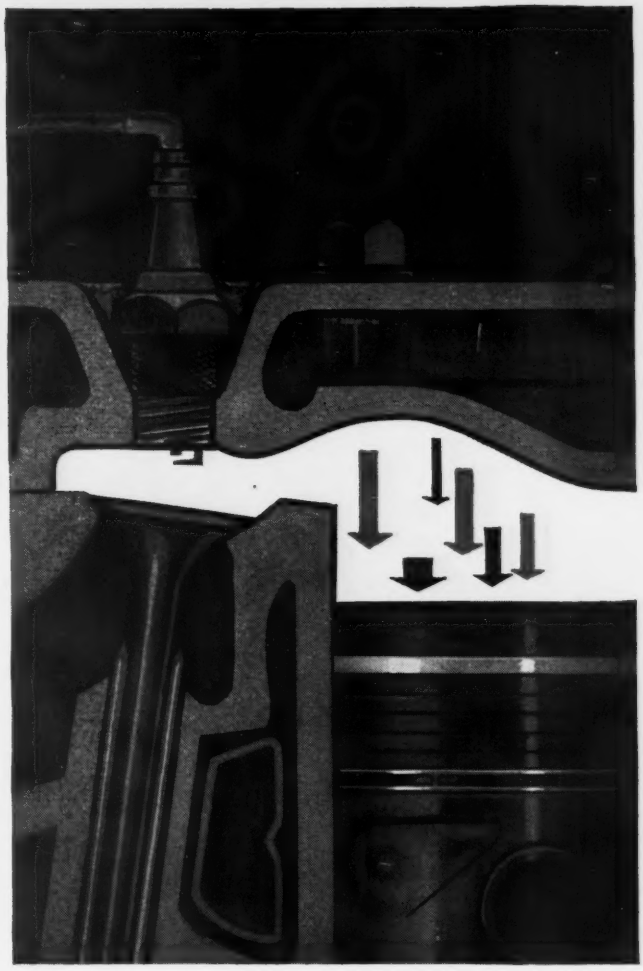
An effective way to correct gearshift looseness and shifting difficulties in a 1949-54 Chevrolet is to remove the top cap and clamp it in a vise, as shown. Squeeze it together until the distance between the bearing faces is 1.600-inch. Then file the mating surfaces so the screws will not return the cap to its original position, as the cap warps slightly from pressing it together. *Robert Reid, O'Rielly Motors, 4349 East Lester St., Tucson, Arizona.*

Horn Trumpet Serves As Funnel to Fill Transmission

To fill an automatic transmission, with the dipstick under the hood, take a trumpet off of an old set of horns and taper the small end about ¾ in. in diameter. This makes an excellent funnel. *Siegel D. Jones, Jones Fleet-Wing Service. W. Erie at Washington, Lorain, Ohio.*

(*Continued on page* 74)





WHERE IS PRESSURE GREATER...

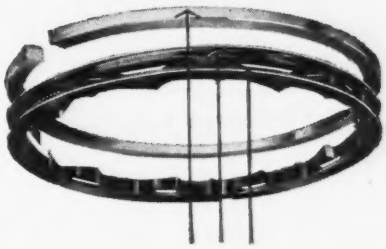
100 fathoms under the sea ...or inside a car's engine?

When combustion occurs, the pressure within the cylinders of an engine goes as high as 600 lbs. per square inch... actually *twice as high* as the pressure at 100 fathoms below the sea!

Old style top piston rings, operating where pressure is greatest, heat is highest and lubrication is poorest, wear *twice* as fast as modern chrome rings. That's why engine manufacturers use *top* rings plated with solid chrome...and 34 out of 36 install Perfect Circles.

In Perfect Circle's 2-in-1 Chrome Piston Ring Set, BOTH the top ring AND the oil ring rails are plated with thick, solid chrome for *complete* wear protection. They assure thousands of extra miles of sustained power and oil economy. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

PROTECTION WHERE PRESSURE IS GREATEST



SOLID CHROME PLATING on both top and bottom rings give complete wear protection throughout entire area of ring travel. Rings are lapped-in at factory, making tedious break-in unnecessary.

Perfect Circle

2 in 1 Chrome Piston Rings

THE STANDARD OF COMPARISON

Shop Kinks . . . . . .

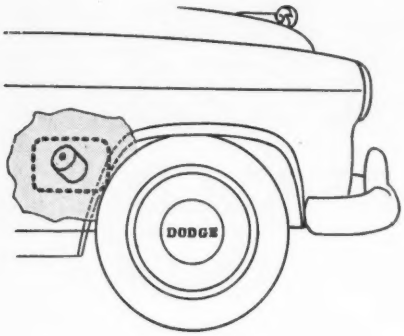
Continued from Page 72

Insulating Oil Line Eliminates Engine Noise

I discovered that by insulating the oil line from the block to the instrument panel, I have silenced what appears to be a valve noise or a loud clicking noise in Chevrolet cars (especially in 1953-54 Power Glides). The noise is caused by the oil pump. Insulate the copper tubing from the block to the fire wall with rubberized tape. In some cases it is necessary to wrap the heat gage tubing also. *Roy M. Dubs, Penna. Garage, 26 E. Phila. St., York, Pa.*

Cut Hole in the Fender Skirt To Change Dodge Filter Core

I have found that on a 1953 Dodge V-8 it is almost impossible



to change the filter core. We cut a hole in the fender skirt, just over the frame, large enough to get the core out. Cut a plate to cover the hole and fasten it with sheet metal screws. *Frank Rochel, Frank's ServiCenter, 216 State St., St Croix Falls, Wis.*

Speedometer Cable Housing Taped to Deaden Gear Noise

Lately, we have had complaints of an excessive amount of gear noise coming from the vicinity of the transmission and drive line. First, we diagnosed the trouble as being in the transmission and proceeded to disassemble the unit. But in road testing the car, the same noise was present. Next, we disconnected the speedometer shaft and the noise stopped. Our findings were that the speedometer cable housing was in metal contact with the chassis and body of the car and was telegraphing the noise up from the transmission. To correct this condition, we loosened the cable housing from the support brackets and wrapped the housing with friction tape to deaden the sound and insulate the cable from the body and eliminate the noise. *Harry W. Hulett, Ward Newport Pontiac, Cushing, Oklahoma.*

Tool Prevents Damage to Carburetor Throttle Valves

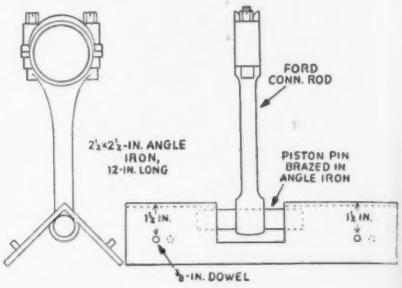
This tool is helpful in holding the carburetor while working, and also prevents damaging the throttle valves on some of the new two-hole and four-hole carburetors. Take an old carburetor body flange, one for a two-hole and one for a four-hole, and strip them. Tape one hole in each end of the old flange to a ⅜-in. hole. Take two ⅜-in. cap screws and turn them down to 5/16 in., leaving enough of the ⅜-in. threads to screw in the body flange. They can be joined or brazed to keep from turning out. Then thread the 5/16-in. stud for a nut. *L. V. Bushert, 2504 Albatross St., San Diego 1, Calif.*

Chevrolet Upper Pivot Shaft Easily Removed from Front

The upper pivot shaft on the Chevrolet is often tough to remove. Here is a way to remove them both from the front, without removing any sheet metal or using a torch. Take two upper control arm inner pivot shaft bushings and knock the expansion plugs out of them. Saw about ½ in. off the small end, making two jamb nuts that fit the shaft perfectly. Next, take two 1 1/16-in. box wrenches and tighten these against each other; use an open end on the inner one to turn it out. To start the threads across the cross member, use the jamb nuts and tap the ends of the shaft with a brass hammer while the shaft is slowly turning. *Bob Marker, Homer Chevrolet Co., 9767 Grand River, Detroit 4, Mich.*

Connecting Rod Tool Lifts Ford Motors from Chassis

Here is a tool for lifting Ford motors from the chassis. Use a Ford connecting rod and a piece of 2½-in. angle iron, 12 in. long. Remove the intake manifold while the motor is still in the chassis. Turn



the rod to one side, place the angle iron down in the V of the motor and it will fit up snug and firm against the intake parts. The holes are staggered to fit the staggered parts. *Richard Melear, Richard Melear Motor Co., P. O. Box 266, Trinidad, Tex.*

Tool for Close Adjustment On Fan-Generator Belts

This tool is for adjustment of fan and generator belts on 1949 and later model Fords. Standing in front of the radiator, with the tool in your left hand, slide the short end under the generator. With the short flared end against the underside of the generator and the "L" shaped part of the tool resting on the engine, lift up. This exerts an even pressure against the generator and allows the mechanic to make a close adjustment. *L. V. Hairston, 125 Comal St., Luling, Tex.*

Tip for Replacing Valve Rocker Cover Gasket

When working on a Chevrolet side pan I find that if I install four guide studs into the side of the block, I can very easily slip on my gasket. With the gasket in place it is very easy to replace the pan. I install my lower screws first, then remove the four guide studs and replace the rest of them. *John Marrone, c/o Atwood Chevrolet, 42 West St., Bristol, Conn.*

"I've built TBA Volume with my forgotten service"

Says: Rudy Kusic, Kusic Motor Supply, Weirton, West Virginia

"I turned my 'forgotten service'—air service, into a real money maker. It's the simple application of the Industry's approved 3-5 lb. inflation formula, using gauges and air service equipment certified accurate. That's what I did with Schrader Air Service Products—and take it from me—a little thing like accurate air service builds customer confidence. And it increased my TBA volume."

Schrader replaceable tire valves, gauges, valve cores, valve caps and accessories are an important part of your Certified Air Service procedure. Be sure you use, display, sell these quality products. Order from your Schrader supplier.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

Schrader
REG. U. S. PAT. OFF.

FIRST NAME IN TIRE VALVES

6145

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Helping Hand . . . . . Continued from Page 51

"That man was of good character," says a spokesman for SBA in the Chicago regional office, through which the loan application passed on its way to Washington for final approval. "He had successfully operated his business for 15 years, he had family and business ties in the community as well as a building especially and specifically adapted to the type of business he was doing. It would have been a blow to the business community as well as to his customers to let this man go into bankruptcy, throwing from seven to ten people out of employment because of the lack of a few thousand dollars to tide him over until such time as he could set his financial house in order.

"On the other hand, his collateral was such that he would be considered a 'lousy' bank loan prospect. But where the bankers are trained to approach a loan from the standpoint of why it should not be made, SBA approaches from the standpoint of why a loan should be made."

Another of SBA's major functions is to assist small businesses to obtain a fair share of the orders for goods and services by both public and private buyers.

Other activities include that of making studies and recommendations to assure that small business gets its fair share of materials and equipment which may be in short supply. Past experience has demonstrated that small business is usually the first to feel the "squeeze" when shortages of materials or equipment develop.

Through its field offices, the agency also makes available to small firms information on the many thousands of inventions owned by the Government, a source of ideas for new lines and methods for new and expanding enterprises. These inventions are normally available for use under non-exclusive, revocable, royalty-free license.

SBA also has made available a "Specifications Directory" listing some 500 places across the country where small firms can locate partial or comprehensive files of standard Government specifications.

Lastly, SBA represents the interest of small concerns in Washington, sitting on Government committees to coordinate activities between agencies and to insure that small business interests are considered.

There has been concern about what actually constitutes a small business—since the agency is specifically charged with loaning only to small business. The "Small Business Act of 1953" provides that a small business is one that is independently owned and operated and which is not dominant in its field.

Since it is not the ambition of

(*Continued on page* 78)

FOR FINER FINISHES

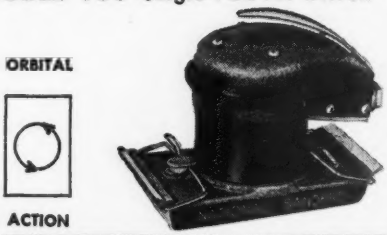
NATIONAL SANDERS

ORBITAL OR STRAIGHT-LINE ACTION

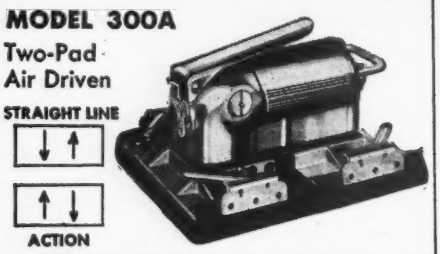
AIR OR ELECTRIC DRIVEN

NEW MODEL 600
Single-Pad Air Driven

MODEL 100 Single-Pad Air Driven

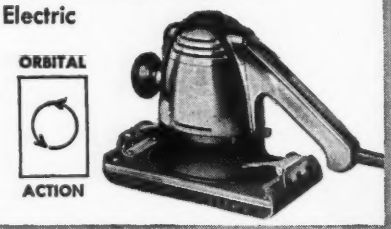


MODEL 300A
Two-Pad
Air Driven



MODEL 400 Mity-Midget
Single-Pad
Air Driven

MODEL 500 Single-Pad
Electric



You can select the right sander for every finishing operation from National's Complete Line. Single or double pad, straight-line or orbital action, air or electric driven block sanders are all available from your National jobber. National sanders are made of the finest materials by expert craftsmen to give reliable, trouble-free service.

WRITE FOR NEW CATALOG

NATIONAL NS SANDERS

NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILL.

Multimillion-dollar

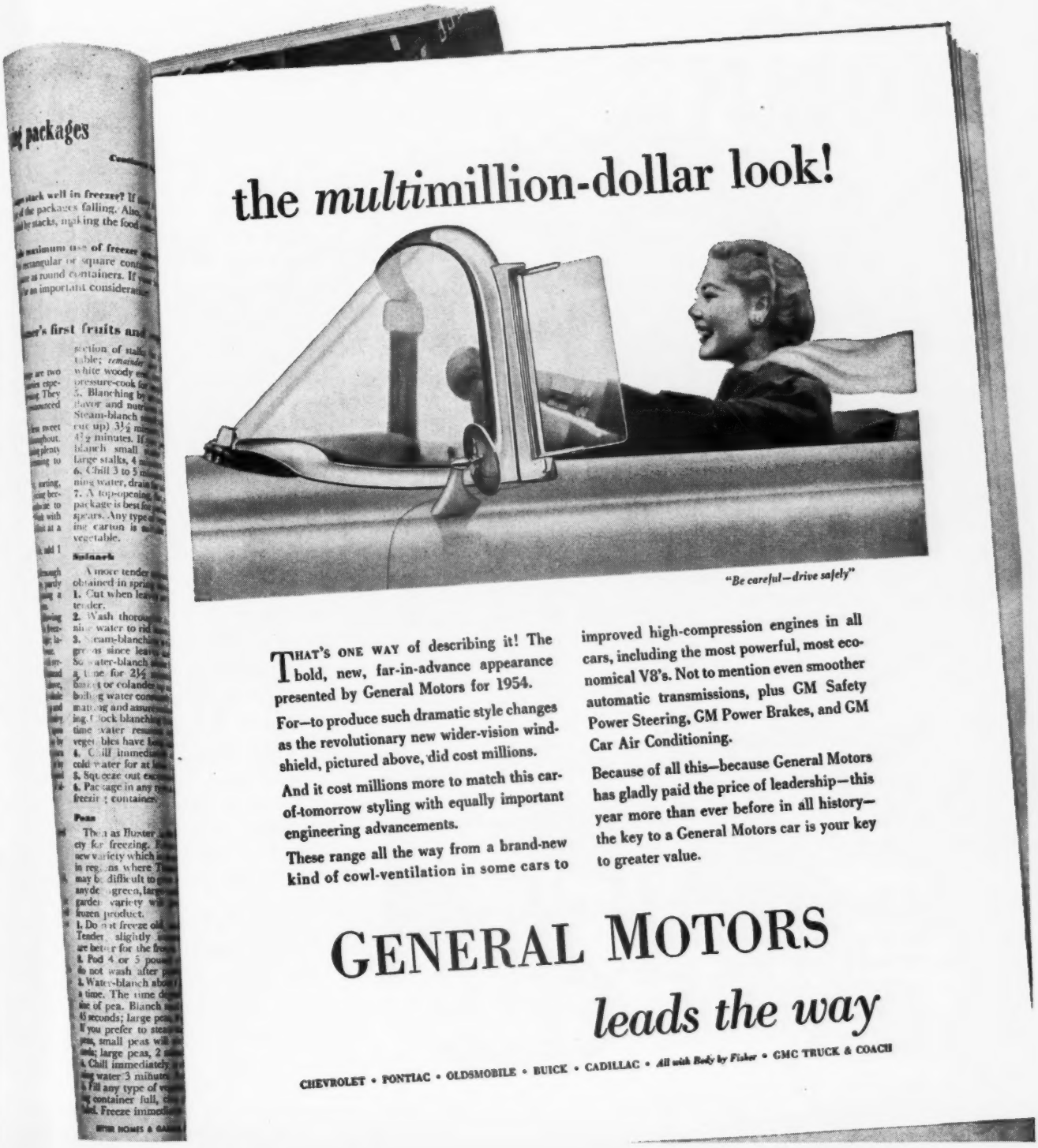
MESSAGE

to your motorcar market!

Here's a high-compression advertisement, that packs power in every cylinder!

In dramatic picture, in dramatic copy, it tells the General Motors sales story for 1954. The story of bold, new, far-in-advance styling matched by equally important engineering advancements!

Yet this is just one of a series of similar high-sales-power advertisements (appearing in leading magazines, usually in four colors) which adds up to a multimillion-dollar effort to help you convince your local car buyers that—in style, in engineering—General Motors leads the way.



the *multi*million-dollar look!

"Be careful—drive safely"

THAT'S ONE WAY of describing it! The bold, new, far-in-advance appearance presented by General Motors for 1954.

For—to produce such dramatic style changes as the revolutionary new wider-vision windshield, pictured above, did cost millions.

And it cost millions more to match this car-of-tomorrow styling with equally important engineering advancements.

These range all the way from a brand-new kind of cowl-ventilation in some cars to improved high-compression engines in all cars, including the most powerful, most economical V8's. Not to mention even smoother automatic transmissions, plus GM Safety Power Steering, GM Power Brakes, and GM Car Air Conditioning.

Because of all this—because General Motors has gladly paid the price of leadership—this year more than ever before in all history—the key to a General Motors car is your key to greater value.

GENERAL MOTORS

leads the way

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK • CADILLAC • *All with Body by Fisher* • GMC TRUCK & COACH

Helping Hand . . . . . Continued from Page 76

SBA to compete with banks as lending institutions, all SBA loans are made only in cases where the required credit is not available on reasonable terms from other sources. In fact, the Act provides that an applicant furnish names of lending institutions to which he has applied for loans and proof of their refusal. SBA field offices are instructed that an applicant is not eligible for a direct loan unless he has a letter from his bank or banks refusing to make a loan or participate in one.

The routine should go something like this: A businessman operating a small firm needing credit should apply first to his bank. If the bank is unable to extend the credit as a bank loan, the bank may be able to make the loan by sharing it with SBA. If this is not possible, the business man may then apply for the loan directly to an SBA office.

The following practical credit requirements have been established for either a bank-SBA loan or a direct SBA loan: 1. The applicant must be of good character. 2. There must be evidence the applicant has ability to operate his business successfully. 3. On a term loan—one repayable in installments over a period of several years—the past record and future prospects of the business must show sufficient probable income so it can be logically assumed the applicant will be able to repay the loan out of future income from the business. 4. The applicant must have enough capital in the business so that with loan assistance from SBA it will be possible to operate on a sound financial basis. 5. As required by the Small Business Act of 1953, the loan shall be of such sound value or so secured as reasonably to assure repayment.

Rodney still has the old spark, but he has to drag his feet across the carpet first.

The Small Business Administration is a public agency using the taxpayers' funds. Therefore, SBA loans must conform to the law and be fully justified. Accordingly, certain types of loans and loans under certain circumstances will not qualify.

For example, a business man

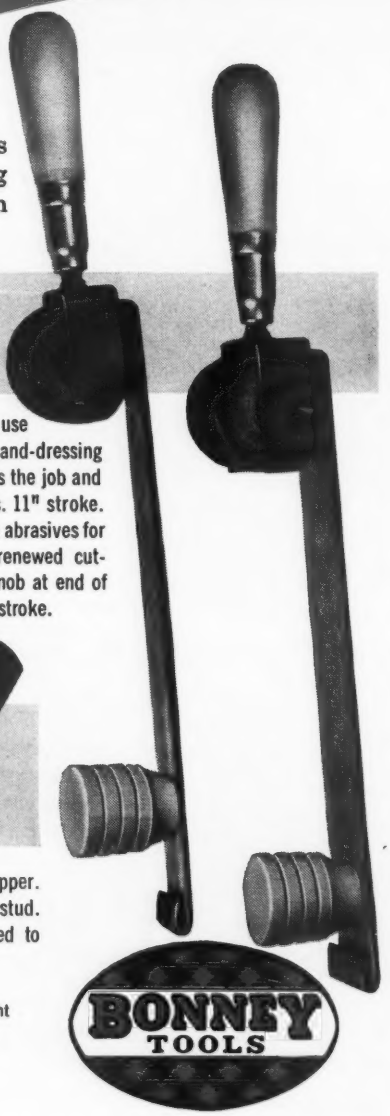
(*Continued on page* 80)

Another . . .

BONNEY

NEW TOOLS FIRST!

Again, Bonney brings you the new tools that make more money for you by helping to turn out better work *faster*. See them on display at your jobber's *now*.



BONNEY
RED FLASH ABRASIVE FILE
No. F41: 1" wide • No. F42: 1½" wide

The modern way to use abrasive cloth for hand-dressing and finishing. Speeds the job and eliminates file marks. 11" stroke. Rolls come in various abrasives for quick change and renewed cutting face. Unique knob at end of frame assures even stroke.

BONNEY
CHANGEABLE-HEAD
ALUMINUM HAMMER

Tips readily interchanged—available in plastic, and copper. Special design cushions tips—protects threads of floating stud. Eleven-inch "I" beam reinforced aluminum handle molded to head eliminates vibration and handle sting.

	Weight
No. PH45: Hammer with 2 plastic tips	1 lb.
No. PH46: Hammer with 2 copper tips	2 lb.

Individual tips available

BONNEY TOOLS

BONNEY FORGE & TOOL WORKS, ALLENTOWN, PA.

Compare: FEATURE FOR FEATURE!
PRICE AGAINST PRICE!

YOU CAN'T BEAT...
the CHAMPION LINE!

ARCO
COLOR MACHINES

Compare: THESE FEATURES

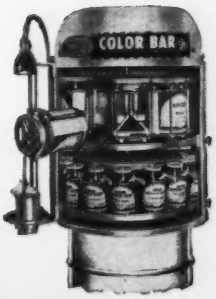
Nothing on the market comes close to matching the functional design, compact size and low price of the COLOR BAR, COLOR BAR, JR. and COLOR CADDY. Arco originated color machines in 1936 and has constantly improved them over this 17-year period, until today they provide the very maximum in fast, accurate color matching.

Only completely integrated unit with no extra parts to buy . . . all cans attached to the machine

- All colors electrically agitated at one time . . . just a flip of the switch!
- Cans mounted on hinged bases pull into pouring position . . . no need to lift cans.
- Spring-actuated knife cut-off valve stops flow of paint instantly.
- Air vents open and close simultaneously with knife cut-off valve.
- Complete agitation of all pigment is assured by paddles grooved to fit contour of can bottom.
- Built-in lighting and compact size (only 29" square) permit installation in dark, out-of-the-way corner. Takes no more room than a household refrigerator.
- Arco color machines start as low as $53.95.

Compare: THESE PRICES

Color Caddy "4", Model E-20...$53.95 } not illustrated
Color Caddy "8", Model E-40...$74.95 }



ARCO PAINTS
Quality... SINCE 1881

Paints, Lacquers
Varnishes, Enamels
Protective Coatings

TESTED FIRST TO LAST!

THE ARCO COMPANY | 7301 BESSEMER AVE. • CLEVELAND 27, OHIO
5898 CENTRAL AVE. • LOS ANGELES 1, CALIF.

A Subsidiary of American-Marietta Company

CALL YOUR ARCO JOBBER TODAY!

Helping Hand . . . . . Continued from Page 78

with a substantial net worth, including a sizable investment in good stocks and bonds, who owns a retail auto dealership would not be eligible because he could secure the credit elsewhere by using his securities as collateral for a loan.

A businessman facing failure because of unprofitable operations of a business and who is being pressed by his creditors would be refused because paying his creditors would only temporarily solve his problems—and the loan would benefit the creditors, not the businessman applying for the loan.

Nor would a loan be made if the purpose is speculation. In short, it is the policy of the Small Business Administration to make loans that will actually help the borrower to operate his business successfully.

To return to the routine of making a loan, if a bank is unable to make an outright loan to a businessman, the next question is, will the bank make a loan conditioned on SBA purchasing a deferred participation in the loan. SBA has been authorized by the Act to participate up to 90 per cent. If the bank agrees, it will make application to SBA for the participation agreement, and the businessman-applicant need only file such application with the bank as the bank may require. The applicant need not make any application to SBA. However, SBA approval for a participation loan must be had by the bank in advance of making the loan.

If the bank agrees to make the loan, conditioned on SBA purchasing an IMMEDIATE participation, the applicant must file an application on SBA Form 4 at the SBA office serving the territory in which the applicant's home office is situated. The same procedure must also be followed if the bank is unable to make a loan on any basis and a direct loan is desired from SBA. In either case, while it is not required that the application be presented in person, it is always desirable for the applicant to discuss his situation personally, when possible, with an SBA financial expert.

The time required to get a decision on a loan application varies. It is affected by such things as the number of loans pending in the SBA offices at the time the application is filed, the care with which the application has been prepared by the applicant, the completeness of the information furnished, and the amount of work necessary to examine the elements required for fair and proper consideration of the application. Procedures have been established to consider applications without delay. For uniform consideration, final action on loan applications is taken in the SBA office in Washington; however, no time is lost

(*Continued on page* 82)

EVERY PROFIT OPPORTUNITY *YOURS* WITH PENNZOIL

Cash in on Pennzoil *quality* by selling the full line of Pennzoil products. Coast-to-coast acceptance of Pennzoil motor oil—the nation's fastest-selling premium oil—gives you a ready market for *all* Pennzoil lubricants.

You'll stock fewer brands, because you can meet *any* lubrication need with a Pennzoil product. You'll have less money tied up in inventory, because Pennzoil products sell *fast*. And you'll realize more *profit* through proved Pennzoil merchandising programs that develop more customers and keep them coming back.

Get the facts *now!* Contact your nearest Pennzoil distributor or write us for his name.

THE PENNZOIL COMPANY OIL CITY, PENNSYLVANIA

Emile Montemurro, Midwest Manager of Fox Movietone News, tells how:

He handles 300 reel problems a day!

"Old news is no news," says veteran newsreel cameraman Emile Montemurro.

"We've been getting the news to theaters and TV stations all over the U. S. — news that's hot and fresh — by using Air Express. We've relied on them for over 25 years.

"Air Express handles some 300 shipments a day for us. They go all over the country, coast to coast. With new TV stations opening and using our newsreels, that figure will soon reach 600 a day!

"Other air services would cost us more than Air Express, we've found. Besides, you cannot duplicate the excellent personal attention Air Express gives every shipment."

It pays to express yourself clearly. Say Air Express! Division of Railway Express Agency.

Air Express

GETS THERE FIRST *via U.S. Scheduled Airlines*

and it

STAYS PUT

PERFECT®

WHEEL WEIGHTS

The Double 3 Point Suspension Does It!

PERFECT Wheel Weights are made with a larger radius than the rim, so that when applied they create constant pressure at points 1–2 and 3 (shown above in top photo). Bearing points to prevent "rocking" are also formed at points 1a–2a and 3a (shown in small illustration).

Such a DOUBLE 3 point suspension principle prevents slipping—"rocking" and loss of weights. PERFECT'S "stay put"—they give SATISFACTION. That's why they're the world's largest selling wheel weights.

This principle applies to both the "C" and "U" type Perfect Weights.

"U" Type

Fits all passenger cars made before 1949 which had either E or F type rims. Still gives satisfaction on most cars manufactured up to present time. Made in the following sizes: ½- 1- 1½- 2- 2½- 3- 3½- 4- 4½- 5- 5½- 6-ounce.

"Special" Type

Made for all late model Cadillacs equipped with large chrome hub caps covering the entire wheel. Made in the following sizes: ½- 1- 1½- 2- 2½- 3-ounce.

PERFECT EQUIPMENT CORP.

804 W. Morgan St. KOKOMO, IND. P. O. Box 706

Manufacturers of Passenger and Truck Wheel Weights — Coil Spacer Rings — Caster Shims.

Helping Hand . . .

Continued from Page 80

in transmittal since every regional office is within one-day airmail service.

Generally, applications for deferred participation loans with banks can be acted upon more quickly by SBA than other types of loans because the banks have completed most of the credit investigation needed before the application is filed.

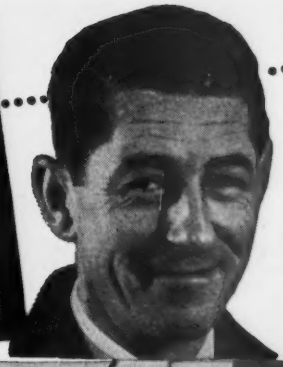
After a loan application has been received by the SBA Washington office, along with the Regional office report, a staff of skilled credit men reviews the application promptly. It is then referred to a loan review committee which recommends a course of action to the Administrator, who takes final action on all loan applications.

If a loan is approved, this information is sent by wire to the Regional office and a formal loan authorization is prepared and forwarded to the applicant. This authorization is not a contract or a loan agreement, but rather sets out the conditions to be met by the borrower before the loan funds will be disbursed. When the borrower is prepared to meet these conditions, a closing date is set at which time all notes, mortgages, assignments and other required documents are executed. The authorization then becomes a contract and disbursement of the loan is made by check, either immediately or as required by the applicant.

Speedy closing of a loan, after formal authorization has been issued, depends largely upon the borrower and the time he requires to comply with the terms and conditions of the authorization. SBA is prepared to handle loan disbursements simultaneously with the loan closing.

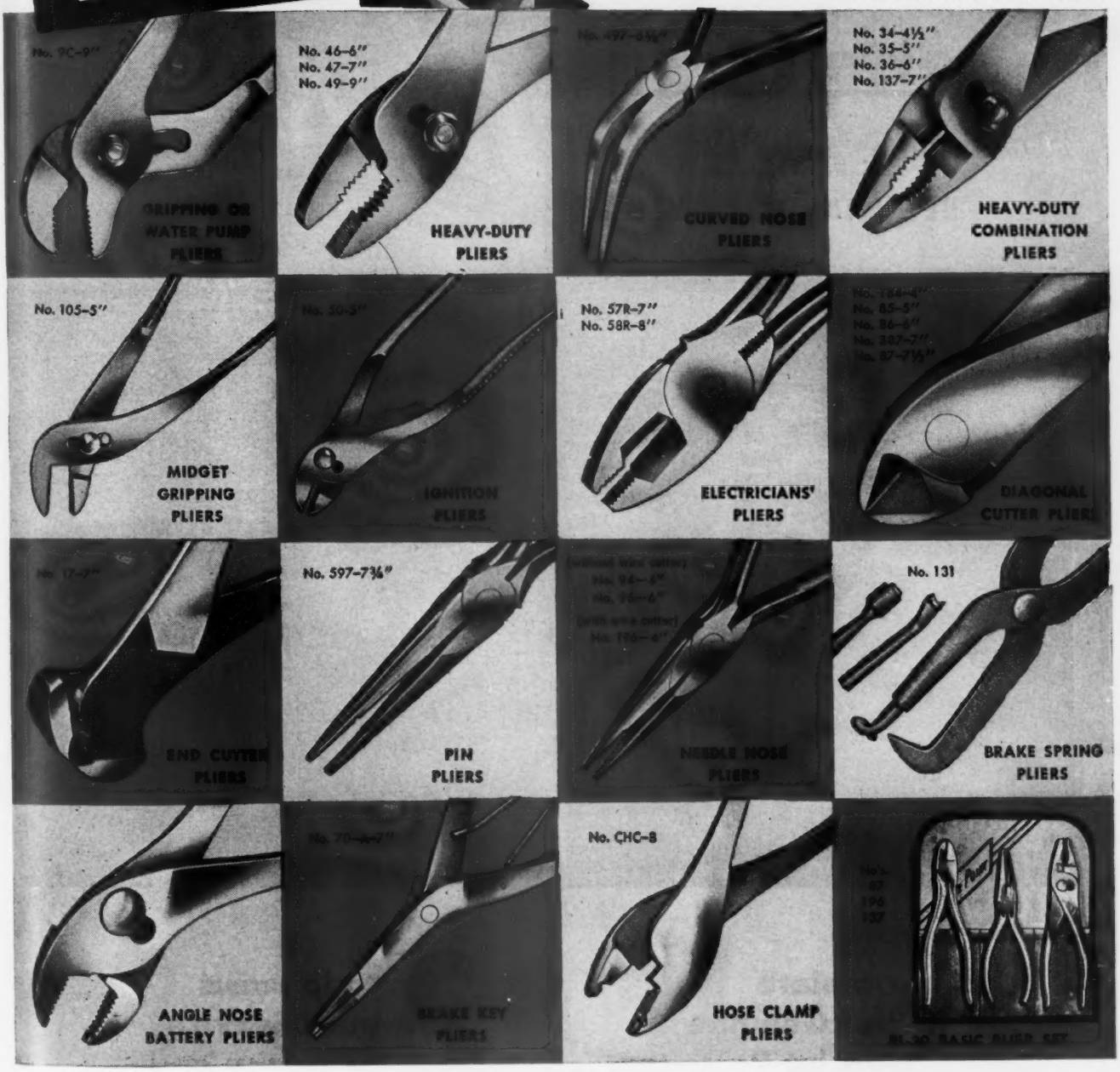
Never attempt to do anything which you are not prepared to do thoroughly. A little done well is far more satisfactory than a great deal done carelessly and superficially. ***Francis Parkman***

Snap-on* VACUUM GRIP PLIERS



..."handle every plier job faster, easier, safer...and they'll outlast several pairs of ordinary pliers...SNAP-ONS are favorites in our shop."

Robert W. Rumpf, Service Manager, S-W-S Chevrolet Co., Dayton, Ohio

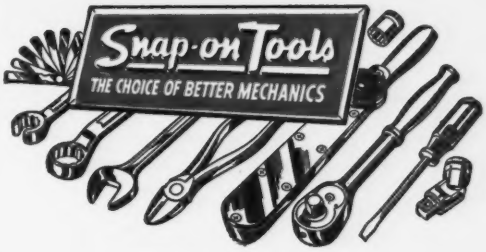


SNAP-ON PLIERS are better because they are built to the most exacting standards that specialized engineering, advanced metallurgy and painstaking skill can produce. Jaws, cutting edges and joints are locally hardened to give exact degree of toughness for greatest durability. Look them over—handle them—*try them* next time your Snap-on man calls! For 104-page catalog of 4000 Snap-on tools, write...

SNAP-ON TOOLS CORPORATION

8036-D 28th Avenue, Kenosha, Wisconsin

*Snap-on is the trademark of Snap-on Tools Corporation



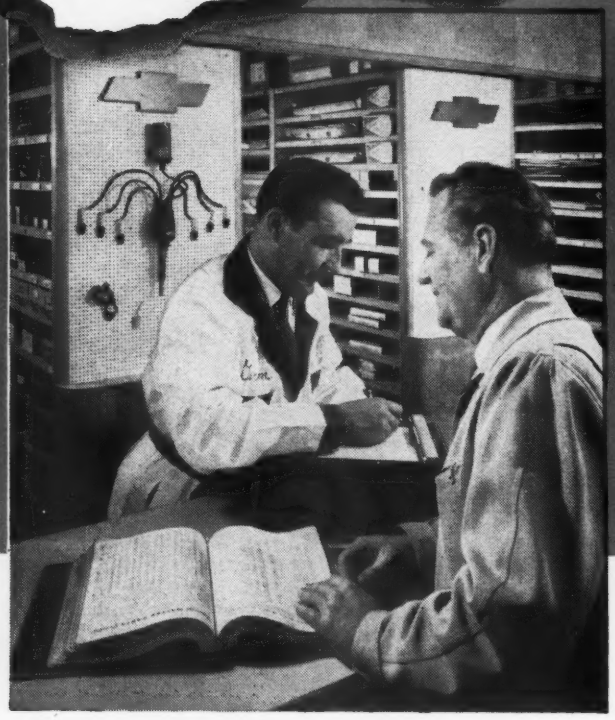
INDEPENDENT

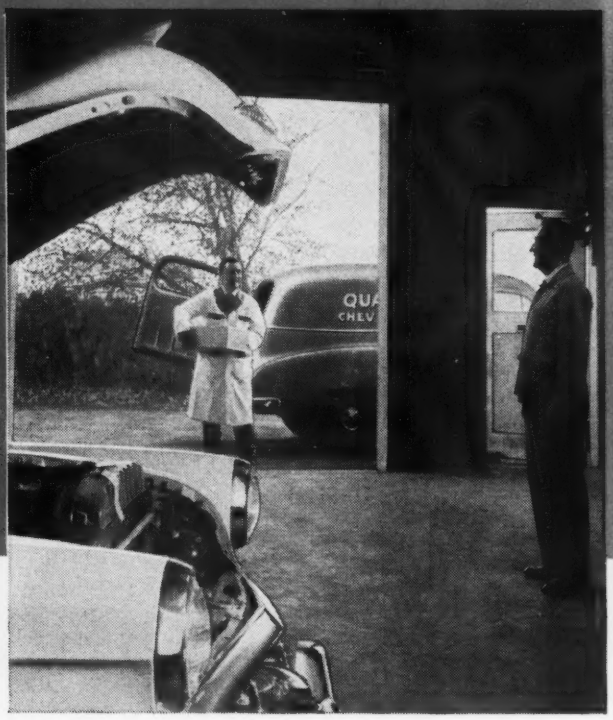
These 4

Your Chevrolet Dealer is ready, willing and able to serve you

better than ever!

SEE HIM TODAY!





1 A complete line of Genuine Chevrolet Parts *that* . . .

2 Help raise your Service Efficiency *and* . . .

CHEVROLET

Your Chevrolet Dealer . . . Your Partner in Service

Ready, willing and able to serve you . . . better than ever!

SERVICEMEN: Big Benefits are yours

when you deal with your Chevrolet Dealer... your partner in service!

3 Help increase your Customer Satisfaction, *plus*...

4 Technical Helps in solving Service Problems

World's Biggest Service Market . . . More than 1 out of 4 vehicles on the road is a Chevrolet!

It's the largest owner service market in the industry! By dealing with your Chevrolet dealer, you can take full advantage of the wide reputation for customer satisfaction that has been built by Genuine Chevrolet Parts.

Push or Tow . . . . . Continued from Page 55

coln, Nash, Oldsmobile and Pontiac): With Hydra-Matic selector lever in neutral, wait until car speed reaches 18 to 20 miles per hour. Then turn on ignition key and move selector lever to "Dr" range. (Either "Dr" range on 1952 models). Do not use "Lo" range for this purpose.

Hy-Drive (Plymouth): Turn on ignition. Depress clutch pedal and place selector lever in high gear position. Release clutch pedal. Push to speed of 20 miles per hour at which speed car should start.

Power-Flite (Chrysler, De Soto, Dodge and Plymouth): Push to start as follows: If the engine fails to start in a normal manner, it may be started by pushing the car. It is desirable to push the car rather than to tow it. Turn the ignition switch on, then place the selector lever in neutral position. After car has been pushed to a speed of 25 miles per hour, shift to the low position. This will allow the transmission to drive the engine and the engine should start promptly. Towing instructions are as follows: (1) Transmission inoperative—Tow the car with a rear end pick-up or remove the propeller shaft. (2) Transmission operating properly. The car may be towed safely in neutral at a moderate speed. As a safety precaution it is recommended that the selector lever be held in neutral by wiring it securely in that position at the gate. The gate is located at the bottom of the steering column. For long distances (over 100 miles) the propeller shaft should be removed.

WITH THIS SMALL

3 FOR ALL KIT!

Here's the small, fast-moving stock that actually spans the huge Voltage Regulator replacement market for you! You can service practically *every* car with *one* of the 3 great American Bosch Regulators in this profit-packed 3 for ALL KIT!

American Bosch Generator Regulators are a natural in the big, Regulator replacement market... millions of original equipment installations have proved their trouble-free, long-run performance. Exclusive, American Bosch features assure greater stability, guard against runaway voltage, protect both generator and battery. And sales-active American Bosch prices are *right* for replacement volume. Get set for sales NOW with this profit-making "3 for ALL" Kit. Ask your Jobber for details and about the new Regulators for 12v. systems. American Bosch Corporation, Springfield 7, Massachusetts.

AMERICAN BOSCH

Hey, Bernie, you can quit worrying about the dead stock of '34 parts.

Power Glide (Chevrolet): Push to start. Set control lever in neutral until car reaches speed of 15 miles per hour. Turn on ignition, then move control lever to "low" range. If traction is poor because of wet or icy pavement, push car to speed of 20 miles per hour, then place lever in "drive" range. In towing car on its rear wheels, set control lever to neutral and do not exceed 45 miles per hour. If transmission is not working properly, tow car with rear wheels raised. Do not tow car to start engine.

Prestomatic (Chrysler): Make

(*Continued on page* 88)

you always win with the
KING LINE
Every move you make pays off when you feature the KING line . . . 34 years a money-maker! See your jobber for one-stop, complete line service.
KING QUALITY PRODUCTS
"BUILDING FOR THE FUTURE ON A 34-YEAR RECORD"
KING QUALITY
PISTONS • PINS • VALVES • BEARINGS • WATER PUMP PARTS • BOLTS
BUSHINGS • SILENT-U SHACKLES • SLEEVES • WHEEL SUSPENSION PARTS
SAINT LOUIS 10, MISSOURI

Push or Tow . . . . . Continued from Page 86

sure the ignition switch is in the "off" position. Disengage the clutch (clutch pedal pressed down) and place the gearshift lever in the low range position. When car is traveling approximately 10 to 15 miles per hour, turn the ignition switch to the "on" position, engage the clutch (clutch pedal release) and press the accelerator one-third of its travel. The engine should immediately turn over and start. NOTE: If the engine fails to turn over (no engine resistance felt) disengage and re-engage the clutch several times until the engine begins to turn over. If the engine still does not turn over, or fails to start within one-half mile, do not continue pushing the car, for there may be a more serious malfunction and damage to the transmission may occur.

Studebaker Automatic Drive (Studebaker): Push to start. Turn ignition on, set automatic choke by depressing and releasing accelerator only once, and place in neutral. Push (do not tow) to speed of 15 to 20 miles per hour. Then move selector lever to either drive or low position. On ice, use only drive position to improve car's traction. This transmission can be towed in neutral position indefinitely at speeds not over 30 miles per hour. If transmission has been damaged, rear wheels should be raised off the ground while car is being towed.

Supermatic and Drivemaster (Hudson): They are much alike, except that Supermatic includes overdrive, which must be disengaged before starting by pushing. On both transmissions the automatic shift must be turned off at the dash control. The clutch pedal is depressed, the shift put in high gear and the engine turned on. At 10 miles per hour the clutch pedal is let out. On slick ice the same procedure is followed, except that a speed of about 20 miles per hour should be attained before the clutch pedal is let out. Supermatic and Drivemaster transmissions may be pushed or towed on rear wheels indefinitely without damage, provided they are in neutral and there is no internal damage.

Tip Toe Shift (DeSoto): See Prestomatic Fluid Drive (Chrysler).

Ultramatic (Packard): To start engine by pushing or towing the car, place the selector lever in the neutral position (N) and turn ignition switch on. When the car reaches a speed of 25 miles per hour, move the selector lever to the high range position (H), at which time the engine will turn over.

Overdrive (Any Car): Overdrive should be locked out when attempting to start engine by pushing or towing.

Foregoing data compiled by American Automobile Association.

Display This Sign . . . And Enjoy A Complete Profit-Insured Program

TIE ROD ENDS
FRONT END SUSPENSION PARTS
KING BOLTS
COIL SPRINGS
G-H
SAFETY PARTS

Complete Profit-Insured Program

- Precision Engineered Kits Shipped To You Assembled
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- Dealer Inventory Control and Obsolescence Program
- Up-To-Date Wall Chart Showing All Popular Kits
- Complete, Easy-To-Read Catalog
- "Authorized Dealer" Sales-Producing Program With Sales Kit

YOUR G-H JOBBER HAS THIS COMPLETE PROGRAM FOR YOU—ASK HIM, OR WRITE:

G-H HERSHEY PRODUCTS, INC.
DERBY, CONNECTICUT
35 Years of Precision Manufacturing

QUAKER STATE
brings common sense back to motor oil marketing!

Announces streamlined, realistic grading—just 3 grades, LIGHT, *for cold weather driving,* MEDIUM, *for warm weather driving and* HEAVY, *for use where SAE 40 or 50 grades are recommended—to provide long-lasting lubrication for* every *make of car and* every *type of service!—plus a special Multiple Viscosity SAE 5W-20 HD Oil.*

HERE'S great news for every dealer in motor oil! A streamlined, simplified approach to motor oil grading based on the needs of automobile engines! A common-sense plan that clears away the confusion of claims and counterclaims about motor oils.

Quaker State is proud to be the first to take this progressive step . . . another milestone in Quaker State's 50 year record of progress through specialization in automotive lubrication.

FIRST—Quaker State reduces its list of product grades and guarantees that these grades will provide complete, long-lasting lubrication for every model and make of car, and for every type of service and climate.

SECOND—Quaker State believes that all present needs can be satisfied with these 3 basic grades of oil: a *light* oil, a *medium* oil, a *heavy* oil—all of which provide the finest lubrication and have low consumption qualities. Each of these 3 grades will be offered in the time-tested Quaker State Stabilized Motor Oil and in the famous Quaker State HD Oil.

THIRD—In addition, Quaker State offers a fine quality Multiple Viscosity HD Oil SAE 5W-20 for the more sensitive designs of modern high compression engines where an oil of this type is recommended by the car manufacturer, and especially for use under cold weather driving conditions.

THE RESULT—MORE BUSINESS FOR YOU!

Easier ordering, streamlined inventory, simplified servicing! The right type of oil for every customer, with highest lubrication and protection qualities—and lowest oil consumption! An easy system for customers and servicemen to understand and remember! No confusing, extravagant claims to explain and justify. Fewer slow-moving grades to clutter storage space—and higher turnover of all stocks. More business for you in every way!

NEW QUAKER STATE MOTOR OIL CLASSIFICATION

NOW—you need only 3 grades of Quaker State Stabilized Motor Oil—for service ML and MM.

1. **LIGHT**—SAE 10W, 20W and 20. A light grade made especially for cold weather service.
2. **MEDIUM**—SAE 20W-30. A medium grade made especially for warm weather service.
3. **HEAVY**—For use where SAE 40 or 50 grades are recommended.

NOW—you need only 3 grades of Quaker State HD Oil for service MM, MS and DG.

1. **LIGHT**—SAE 10W, 20W and 20. A light grade made especially for cold weather service.
2. **MEDIUM**—SAE 20W-30. A medium grade made especially for warm weather service.
3. **HEAVY**—For use where SAE 40 or 50 grades are recommended.

MULTIPLE VISCOSITY HD Oil SAE 5W-20—Made especially for more sensitive types of modern, high compression engines . . . and for use in extreme winter climates . . . For service MM, MS and DG.

Always recommend—

Quaker State

QUAKER STATE OIL REFINING CORPORATION, OIL CITY, PA.

the high quality, long-lasting, free-flowing 100% pure Pennsylvania Motor Oil

Member Pennsylvania Grade Crude Oil Association

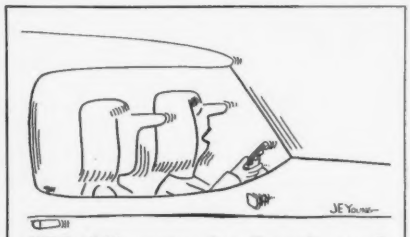
Coaxial Steering . . . Continued from Page 53

almost instantly. Maximum pressure is limited to 800 psi by the relief valve in the pump.

This high pressure oil is directed to the lower face of the piston through the passages indicated on the sketch. Since the opposite end of the piston is open to the return line, a difference in pressure exists and this forces the piston to move. At the same time oil trapped in the low pressure cylinder is forced through return passages as the piston moves.

Movement of the piston in one direction or the other causes a corresponding movement of the lower piston rod and rack and this, in turn, actuates the steering sector at the lower end of the assembly. It is also noteworthy that the gear has a recirculating ball worm-and-nut mechanism at the upper end to greatly increase the mechanical efficiency of the system, reduce friction, and lower the amount of effort required for steering.

Taking a closer look at the mechanism, it will be noted that the spool valve is mechanically connected to the steering wheel, the valve being solidly connected to the ball nut while the latter is connected to the steering wheel through a ball worm. The upper piston rod, on the other hand, is hydraulically connected to the ball nut through reaction rings and a neoprene reaction seal whenever the power system is operating. It may be noted at this point that the reaction seal is filled with oil at operating pressure, this being supplied from the main oil line through a hole drilled in the piston and another drilled along the long axis of the upper piston rod. Incidentally, consistent "feel" stems from the fact that oil pressure in the reaction seal produces a corresponding reaction at the wheel.



"I'd shift gears, but I can't stand that awful clash."

What happens if the oil pressure fails or is interrupted? Under these conditions the small operating clearances in the hydraulic reaction chamber close up as the wheel is turned, giving a solid mechanical connection. Consequently, this will provide full mechanical steering as in a conventional steering gear, although the effect may be considerably greater at the time.

From the standpoint of the car owner as well as dealers and repair men, it is of interest to note that simplified design contributes to relatively service-free operation.

(*Continued on page* 94)

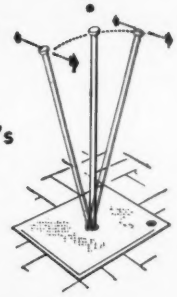
JOYCE SHOPMASTER LIFTS WITH JOYCESTICK CONTROLS

HERE'S HOW . . .

Quick spotting, efficient working height, maximum accessibility, smooth floor area and full hydraulic operation provides safe, healthy and comfortable working conditions. Result . . . less job time and faster service for your customers.

Floor-flush Joycestick control provides safe, accurate, finger tip, at-the-lift control. And here's a *plus* feature . . . because of the location and simplicity of this control, the operator can point out additional services required to the car owner as his car is being raised on the "Shopmaster".

And remember . . . Joyce built, means quality built.



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THE JOYCE-CRIDLAND COMPANY

Designers and Builders of Lifting Equipment Since 1873

DAYTON 3, OHIO, U.S.A.

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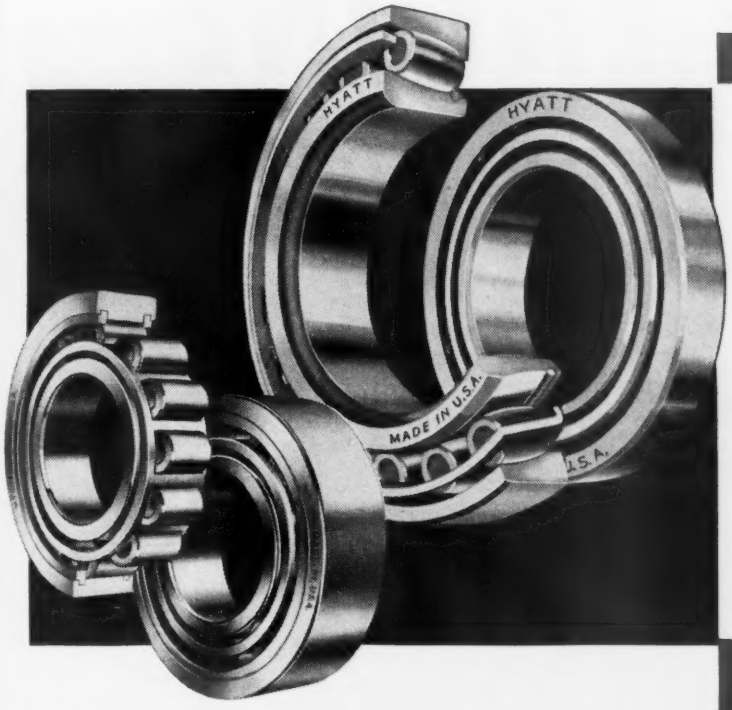
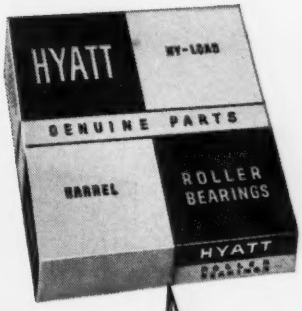
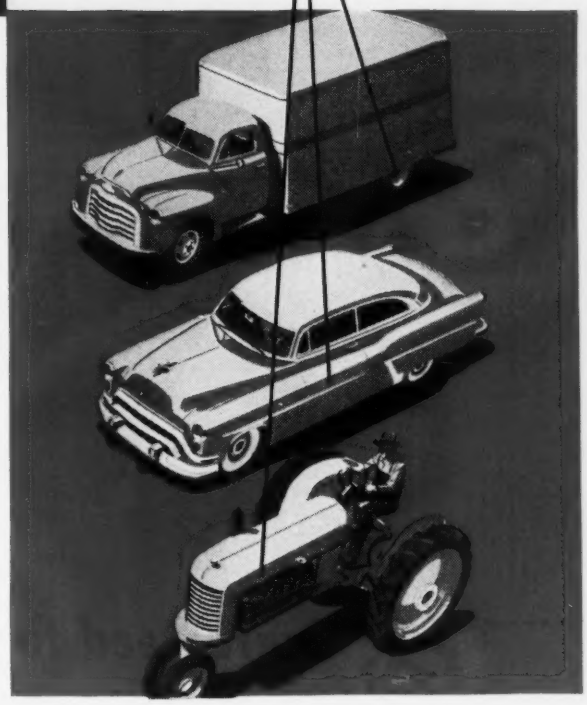
GENUINE HYATT BEARINGS!

Best for Factory Installation . . .

Best for Replacement, Too—







When you replace a roller bearing—Straight, Barrel or Taper—you have a choice of several different makes of replacements. But only *one*—the genuine *Hyatt* Bearing—gives you a replacement of *quality*, as well as size and type. When you install Hyatts, you know you're using the same high-quality bearings that are preferred for factory installation by a majority of automobile, truck, bus and tractor manufacturers. So make the *one sure choice*. Insist on genuine *Hyatt* Bearings for all your replacements.

A GENERAL MOTORS PRODUCT — A UNITED MOTORS LINE

DISTRIBUTED BY DEALERS EVERYWHERE

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STRAIGHT BARREL TAPER

HYATT BEARINGS DIVISION • GENERAL MOTORS CORP. • HARRISON, N. J.

There's a "NEW ENGINE" IN EVERY BOX

Guaranteed to outperform and outlast in <u>any</u> engine—new, re-bored or re-sleeved

THE DIFFERENCE IN PEDRICK FORMFLEX DESIGN

Makes the BIG DIFFERENCE in Performance

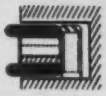
THE Pedrick FORMFLEX CHROME OIL RING WITH THE FAMOUS "EQUALIZER"

Radically different type expander gives Formflex rings 5 times more conformability than rings with hump-type expanders. Stops oil waste quickly, yet meters enough oil to lubricate against wear.

ALMOST TRIPLE OIL DRAINAGE—2½ times more open area provided by "Equalizer" and Spacer. Also, no plugging.

UNIFORM PRESSURE DISTRIBUTION — "Equalizer" gives equal outward pressure for more perfect seal—better oil control—longer life.

CHROME FOR LONG LIFE—Faces of steel rails chrome plated for 2 to 4 times longer life.



INDEPENDENT OF GROOVE DEPTH—"Equalizer" does not rely on contact with bottom of groove for pressure or tension.

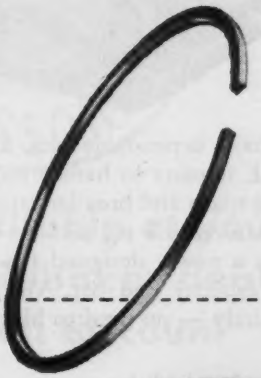
THE Pedrick CHROME TOP RING FOR HEAVY DUTY ENGINES

2 TO 4 TIMES LONGER LIFE. The solid hard chrome face lasts up to 4 times longer and also reduces wear on cylinder wall and on all the other rings.

ELIMINATES BREAKAGE. A special alloy, centrifugally cast and heat-treated, is exceptionally tough and stands up without breakage even under the heaviest loads.

HEAT SHAPED. Process developed and used exclusively by Pedrick to insure correct and lasting tension, and to *maintain* uniform pressure around entire circumference of ring.

POSITIVE 3-WAY SEAL. Twist-Seal design gives point contacts at cylinder wall and upper and lower sides of ring groove—for quick and lasting seals at all three locations.



WILKENING MANUFACTURING CO.
PHILADELPHIA 42, PA.
In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto

GET IT FROM YOUR JOBBER

Blackhawk announces

NEW G.V.W. JACK DESIGN

for today's bigger jobs

The most dependable jack line ever built now offers EVEN MORE stamina to handle today's increased G.V.W.'s, greater lifting spans and broader range of hydraulic jack applications.

Whatever the rig and its G.V.W. (gross vehicle weight), there's a newly designed Blackhawk Hydraulic Jack with the right capacity and lift. You'll handle the job more quickly and surely — no need to block up or unload.

Only by Standardizing on Blackhawk can you get the benefits of this new "G.V.W. Jack design." Cut your overall Jack costs and insure more dependable performance. Order from your Blackhawk Jobber. A product of Blackhawk Mfg. Co., Dept. J-644, Milwaukee 1, Wis.

Only Blackhawk Jacks are tagged with the "Service Proved" Seal

BLACKHAWK

Coaxial Steering . . .

Continued from Page 90

Apart from a periodic 1000-mile oil level check, the coaxial gear presents no problem of lubrication or major adjustments. Since the gear is self-lubricated, it has no grease fittings. Moreover, neither the oil supply nor oil filter require changing except in very unusual circumstances. In addition, no mechanical adjustments are needed, except possibly a cross-shaft adjustment once or twice during the life of the car.

The hydraulic system holds 4½ pints of SAE IOW oil as the standard filling. For extremely cold climate, where temperatures fall below minus 10F, the system should be drained and refilled with SAE 5W oil. In extremely high temperature regions where power assistance seems insufficient with the standard fill, SAE 30 oil should be used.

Program For Salesmen Launched By Auto-Lite

A long-range educational program to give distributor salesmen a better understanding of automotive electrical parts has been launched by the Parts and Service Division of the Electric Auto-Lite Co.

Distributor salesmen will receive kits and other sales helps. One pamphlet, for example, tells how to pep up a sales presentation through the use of unusual, attention-getting sales starters. The sub-titles include: 1. Get down to brass tacks. 2. Give them more examples. 3. Make the most of a short, to-the-point presentation. 4. Put vision in your selling. 5. Stress dealer profits. 6. Use the AEA condensed ignition parts catalogue.

The kit also contains a prospect address book which, when filled, will be sent in to the Auto-Lite Parts and Service Division for special direct mail pieces to the prospects, to be followed by visits from the distributor salesmen.

Plans call for a series of films and information kits covering faster-moving automotive electrical parts.

"ACTION-TESTED"

...IN THE LABORATORY... ON THE PROVING GROUND... ON THE ROAD

Here is your assurance of a better... quicker ...more profitable job every time you use genuine Studebaker parts

Here are 5 typical front end sets

Forged from high quality chrome steel . . . carefully heat treated to assure hardness . . . all magnaflux tested for structural perfection.

YOU CAN depend on those five convenient kits to make Studebaker front end service easier, better and more profitable for you.

Many Studebaker front end parts are conveniently packaged to give you *all* the parts you need for the job *when* you need them.

PARTS ★ GENUINE STUDEBAKER ★ ACCESSORIES

Available at your Studebaker dealer's at full discount

Studebaker "ACTION-TESTED" PARTS... your Partners in Profit... best for you... best for Studebaker cars!

HERE'S HOW the CRANKCASE COCKTAIL

can put more 'kick' in your sales

WHAT A MIXTURE!

Oil to fill a crankcase
Dash or two of combustion by-products
Two spoonfuls of dirt and dust
Two jiggers of water

GET IT FROM YOUR JOBBER

THE CRANKCASE COCKTAIL is a headache to nine out of 10 motorists. BUT it's a 100-proof salesbuilder for you . . . when you are selling Walker Oil Filters. Here's why:

EVERY GALLON OF GASOLINE burned in an automobile produces more than a gallon of water. Some always gets into the crankcase.

WATER IS THE "KICK" in the Crankcase Cocktail because petroleum chemists know water is the chief cause of sludge and source of corrosive acids.

ANY GOOD OIL FILTER can remove the dirt, dust and abrasives that get into the oil but the Walker Oil Filter is the one filter designed specifically to guard against crankcase water . . . and against *all* other harmful oil contaminants.

THE DISTINCTIVE WATERPROOFING ACTION of Walker Oil Filters makes them easier to sell . . . because motorists can easily understand the advantage offered by Walker.

ADVERTISED IN LIFE

WALKER OIL FILTERS are advertised to the 26 million people who see **LIFE** each week.

THERE IS A LOW-COST WALKER OIL FILTER cartridge to fit all makes of filters. And they are guaranteed by the Walker Manufacturing Company of Wisconsin whose exhaust silencers and jacks are certainly known to you.

You do your customers a real favor when you sell them the complete filtration protection offered by the Walker Oil Filter. And you do yourself a favor because filter sales go up—and profits, too—when you handle Walker—the oil filter that takes out road dust, carbon soot, lead compounds, metal particles AND WATER!

WALKER OIL FILTERS

WITH PATENTED *Laminar* CONSTRUCTION

Guard Against Crankcase Water

WALKER MANUFACTURING COMPANY OF WISCONSIN, RACINE, WIS. • OIL FILTERS • EXHAUST SILENCERS • JACKS

Pop O'Neill . . . . . Continued from Page 50

this an emergency then?"

"It certainly is."

"Then I'll have to put the boys on it tonight—overtime. I suppose I . . . "

"Of course you can. Now you're talking. Cost isn't any object—as long as it's low. You get that job out before six. I'll pay any difference in labor charges."

Pop hung up and called Tommy. "Can you work overtime tonight?"

"Sure, but what's eating you? You look like a rainy day at a carnival."

"And I feel like a muddy hole in a gravel pit. Damn these guys who won't realize it takes time to go over someone else's work. No wonder Judd Cypher never gets a satisfactory job."

"Go over to the Coal and Coke Co., Tommy, and pick up Judd Cypher's '52 Chrysler. And get back as fast as you can. We've got a deadline."

Tommy did. He went around to the parking lot back of the office. The Chrysler sat in Judd's stall. Somebody had spelled his name wrong on the parking sign. He raced back, picked up Larry and they went for a road test.

"I don't see anything wrong with this shift," Larry said. "She shifts OK to suit me. You sure it was the transmission?"

"That's what Pop told me. Said it wouldn't shift into fourth," Tommy said, bringing it up to 30 and letting it shift again.

"Let's take a look under that hood."

They stopped at State Street and got out to examine the engine. A babe standing at the bus stop walked over. "What are you doing with Pop's car?" she demanded.

"This ain't Pop's car," Larry said without looking up from the engine compartment. "It's a car we got in for repair."

"Well that *is* Pop's car. I guess I'd know Pop's car any place I saw it. Now what goes on here?" The gal's dimples were beginning to show. She was just a little bit too interested to ignore. Tommy just stood there staring.

"Lady," Larry said gruffly. "I told you this car doesn't belong to Pop. It's just in his garage for work. Now let us alone so we can do just that."

She glared at him. She pointed at the right front fender. "See that scratch? I did that. So I guess I can recognize Pop's car when I see it. And our car doesn't need any transmission work that I know about."

"Wait a minute, Larry," Tommy said. "Maybe I . . ."

The girl was getting a little bit excited. "Who is your Pop?" he said nervously.

"Mr. Weaner, of course. President of Coal and Coke Co. But why don't you know that if you're getting ready to repair it?"

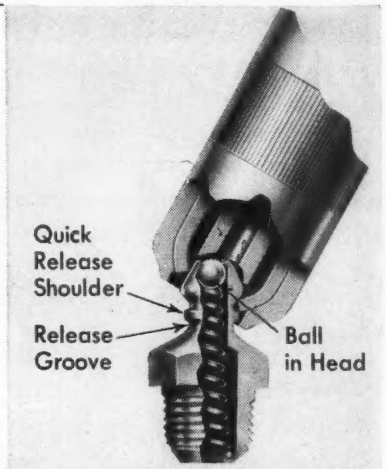
"This car belongs to Judd Cy-

(*Continued on page* 102)

UNIVERSAL

Grease Fittings

No Twist Offs—
No Distortion—
No Break Offs!

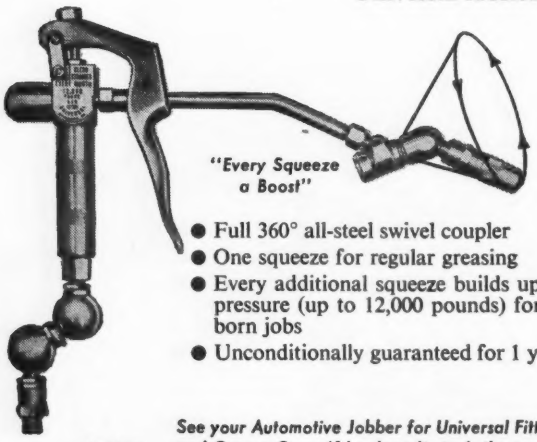


• Quick-Release Shoulder Prevents It!

Universal has a complete line of lubrication accessories

Universal's patented quick-release shoulder prevents damage to fittings because a flick of the wrist is all that's needed to release the coupler from the fitting. No pressure to cut, no valves to work. And the shoulder prevents the coupler jaws from sliding down on the neck of the fitting.

Write today for a copy of our catalog. It furnishes details on the complete line of Universal lubrication accessories.



"Every Squeeze a Boost"

UNIVERSAL

12,000 Pound Grease Gun

- Full 360° all-steel swivel coupler
- One squeeze for regular greasing
- Every additional squeeze builds up more pressure (up to 12,000 pounds) for stubborn jobs
- Unconditionally guaranteed for 1 year

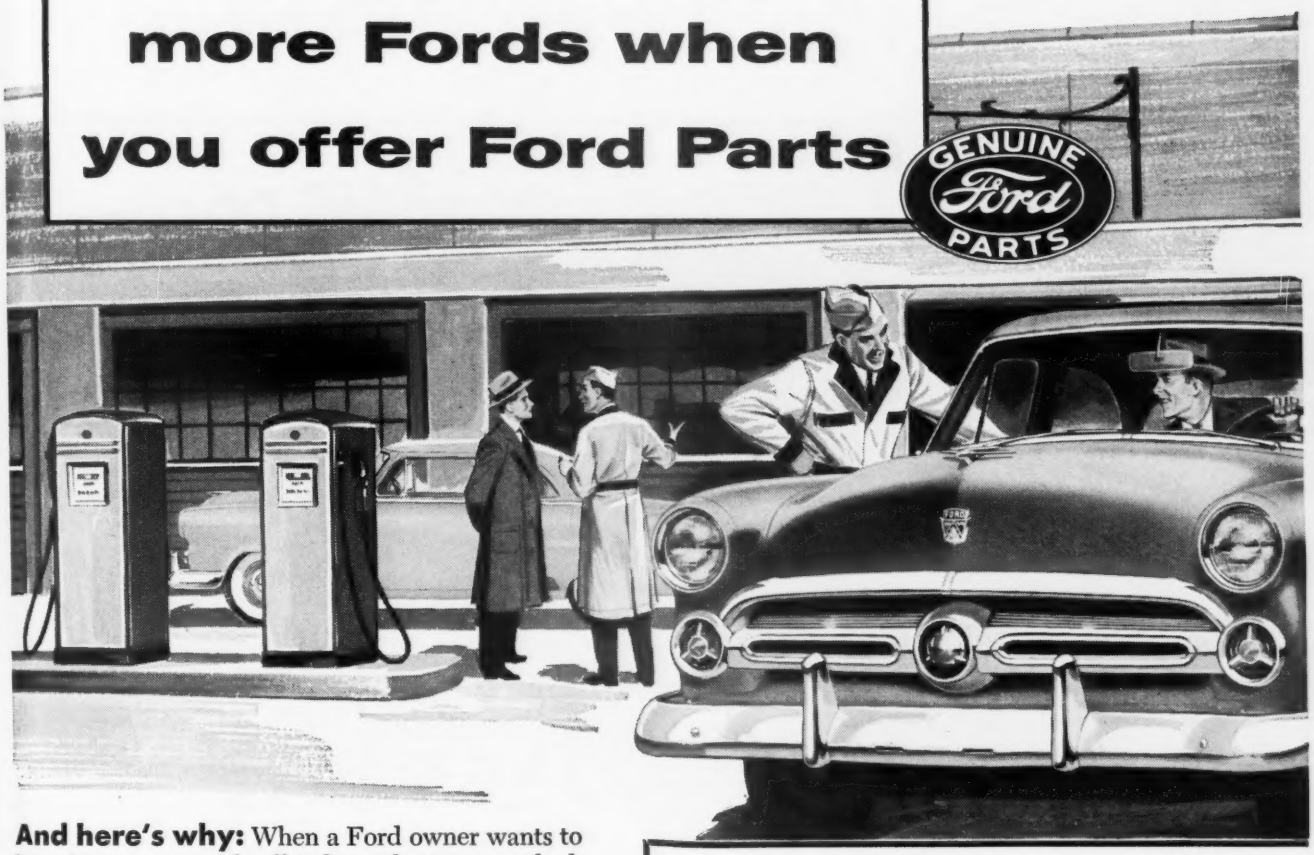
There's All the Difference in the World in Grease Fittings!

See your Automotive Jobber for Universal Fittings and Grease Guns. If he doesn't stock them, write

UNIVERSAL LUBRICATING SYSTEMS, INC.

797 ALLEGHENY AVE., OAKMONT, PA.

You'll service more Fords when you offer Ford Parts



And here's why: When a Ford owner wants to have his car serviced—all independent garages look pretty much the same to him. The way to swing him into *your* garage is to let him know that his Ford will be in good hands with you.

And the best way to do that is to let the Genuine Ford Parts Oval work for you! It will identify your shop as one where Genuine Ford Parts are available . . . parts that are *right* for Fords.

Ford owners are aware that Ford cars are built to run better with Genuine Ford Parts; and an extensive advertising campaign now running in national magazines reminds Ford owners again and again *why* they should insist on Genuine Ford Parts. You, too, can profit from this advertising support if you act now.

So let the Genuine Ford Parts Oval work for *you*. Just clip the coupon below and mail it in. We'll let you know how easy it will be to have it hanging outside your shop.

TWO BUSINESS BUILDERS

May will be National Safety Month with a nationwide appeal to car and truck owners to have their vehicles thoroughly checked. Now's the time to get ready for the extra parts sales this drive will generate. Here are two fast-moving seasonal items:

Replace Worn Linings . . . Genuine Ford Brake Linings are RIGHT for Fords. They're made to Ford specifications, quicker to install, and give extra long life. Your Ford customers will buy them with confidence.

Check Leaky Mufflers . . . You can be sure of Ford owner satisfaction when you install Genuine Ford Mufflers in their cars and trucks. And they're tailored to meet engine requirements of every Ford model on the road.

GENUINE Ford PARTS

MAIL THIS COUPON NOW!

PARTS AND SERVICE SALES DEPARTMENT
Ford Division, Ford Motor Company, Box 658, Dearborn, Mich.
Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too!

FIRM NAME _____
INDIVIDUAL'S NAME _____
ADDRESS _____
CITY _____ STATE _____

H

USE GENUINE

WAGNER® LOCKHEED HYDRAULIC BRAKE PARTS

Failure to use top quality replacement parts in repairing a brake system could seal your customer's fate as decisively as a death warrant! Don't take that chance. Standardize on Genuine Wagner Lockheed Hydraulic Brake Parts.

These replacement brake cylinders, cups, boots, pistons, springs, hose and washers are manufactured to the same specifications, by the same machinery, as parts used in complete assemblies for original equipment. This assures perfect fit . . . quick, easy replacement . . . safe, dependable performance . . . maximum service life.

The Wagner Lockheed line of hydraulic brake parts is the most complete on the market, and includes numbers not easily obtainable elsewhere. Every make and model of vehicle is covered. Parts are available individually or in factory sealed kits. Cylinders are supplied in complete assemblies or parts may be purchased separately.

All parts are available from one convenient source—your nearest Wagner jobber. He can also supply you with Wagner Lockheed Hydraulic Brake Fluid, and Wagner CoMaX Brake Lining. See him today.

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMaX BRAKE LINING • AIR BRAKES

on your customers!

You can depend upon WAGNER QUALITY because Wagner Products are used as original equipment by manufacturers of cars, trucks, buses and trailers.

Wagner

the best known name in brake service

FRANCHISED Wagner AUTOMOTIVE BRAKE PRODUCTS DEALER

JOIN this money-making Franchised Dealer Program **NOW**

It's a money-maker for you . it's exclusive with Wagner. You have everything to gain, nothing to lose. Ask your Jobber or write us for a copy of AU-607. It gives all the details.

Wagner Electric Corporation
6498 Plymouth Ave., St. Louis 14, Mo.
(Branches in principal cities in U. S. and in Canada)

H54-1B

TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

Pop O'Neill . . . . . Continued from Page 98

pher," Larry said coldly, but Tommy was sweating.

"Wait," he faltered. "Maybe—maybe I—got—the—wrong—car. . . ."

Larry stopped in his shoes. "Well I'll be a naughty so and so. Why you dumb . . ."

The girl started to laugh. "Really? Well, I certainly hope so. I'm on my way down to Pop's office right now to pick it up." She climbed in — behind the wheel. "And I might just as well drive you back."

Two red faced mechanics climbed into the back seat. One studied the floor mat while the other inspected the door handle. One man was cursing himself under his breath, and the other was cursing him too. "I'm sure you fellows weren't joy riding in Pop's car," the girl said over her shoulder as she stepped on the starter and shoved off.

"I'm awfully sorry," Tommy piped. "But this car was in Judd—Mr. Cypher's stall."

"You know," she said, "I'll bet you did get them mixed up. There's one little thing you ought to know though. Mr. Cypher's Chrysler is a sedan and it's black. This is a hard top, and it's red. Or have you noticed?" Pop's daughter was getting a kick out of it.

She let them out at the parking lot and smiled at Tommy. "Don't worry about it, now. I think it was fun. And besides I hate to ride buses."

All the factory manual has to say about getting at it is: Ha, ha, ha!

Tommy slunk into the office to get the keys to the other car. "Hell of a note. Look how much time you've lost already," Judd exclaimed.

"But . . ."

"My fault. In my haste I believe I didn't leave explicit instructions for Mr. O'Neill. You see, our president took my stall this morning when a delivery truck was blocking his. So we changed parking places. But it's a good thing you didn't waste all afternoon on Mr. Weaner's car. His daughter would have had you shot. . . ."

"Where've you been for the last

(*Continued on page* 107)

ACCO products

MANLEY TRESTLES

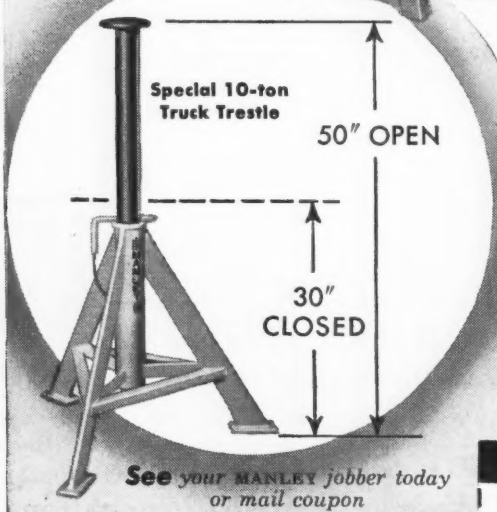
Keep Your Jacks Free!
...and Hold Heavier Loads Safer
...Longer...More Economically

• These non-slipping, non-tipping handy MANLEY Trestles will keep your jacks free for faster moving work. Ruggedly constructed, massively reinforced at all stress points, they provide solid, sure-footed foundations for jobs that *have* to stand steady for long periods. They cost but a fraction of the price of that jack you want to keep on using.

5 Models
4 with Automatic Load Lock

•

These work-saving, money-saving, jack-saving sturdy MANLEY Trestles make every job easier, faster, and safer



See *your* MANLEY *jobber today or mail coupon for literature and prices*

ACCO
Manley Division
AMERICAN CHAIN & CABLE
York, Pa., Chicago, New York, Portland, San Francisco, Bridgeport, Conn.
TRADE MARK
The Best Equipped Shop Gets the Profitable Business

MAIL TODAY!

MANLEY DIVISION MA
American Chain & Cable, York, Pa.

Please send literature and prices on MANLEY Auto Trestles.

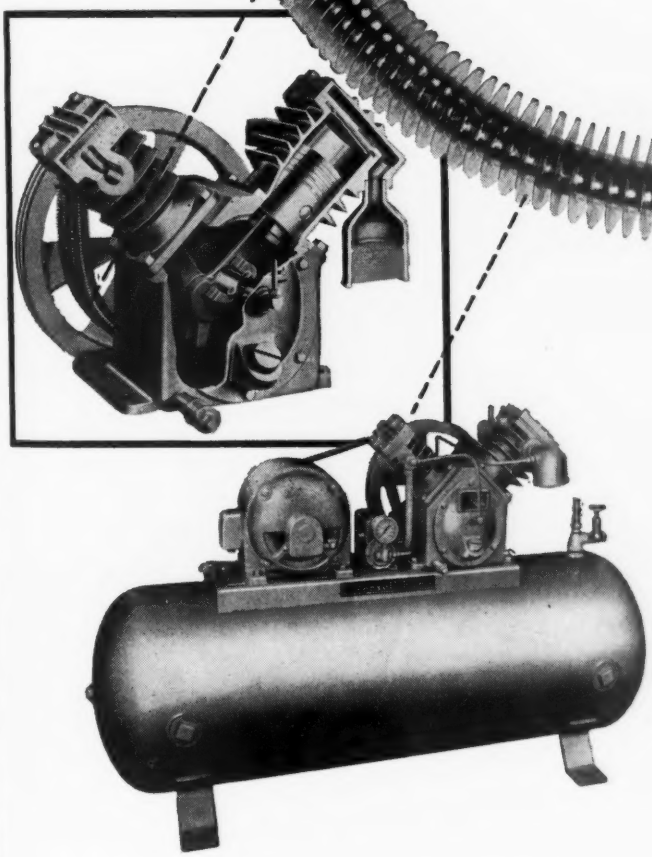
Name _____

Address _____

Town _____ State _____

they take off the HEAT to give you more COLD CASH

Intercoolers on Ingersoll-Rand Compressors dissipate heat f-a-s-t to give you longer lasting compressors—trouble-free service.



These finned intercooler tubes are one of the most efficient means known to take the heat out of compressed air. They are standard on every I-R Type 30 Compressor.

But the story doesn't stop there. The bigger the compressor, the more heat must be dissipated —and the best answer isn't just to increase the diameter of the tube. A smaller stream of air is easier to cool, so I-R uses the more expensive multiple-intercooler tube system. For example, there are 23 of these tubes used on an I-R 15 horsepower unit.

This intercooler gives you several advantages. It is more efficient. In the event of trouble, these smaller tubes are easier and less costly to replace. The extra efficiency results in cooler running—less valve maintenance—longer lasting machines.

Add it all up and the total is more compressor for your money—more cold cash in your pocket over the many years of service you'll get from your I-R Type 30 Compressor. For more information, call your I-R Jobber today, or write:

ORIGINATORS OF IMPACTOOLS-AIR AND ELECTRIC **Ingersoll-Rand**

11 Broadway, New York 4, N. Y. 3-14

YOU CAN MAKE

A $7.00 TO $8.00 SALE TO 4 OUT OF EVERY 5 CAR OWNERS

1953 added 6 million new passenger vehicles to set an all-time high of 45½ million registered cars. Another estimated 6½ million new vehicles will be sold in 1954.

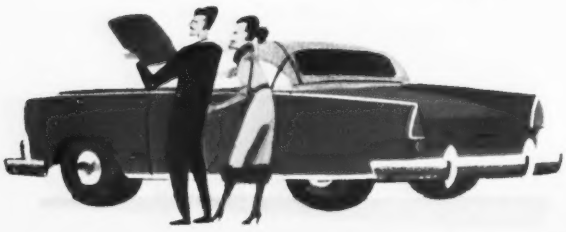
What a tremendous market!

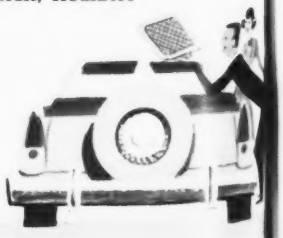
Continued market surveys show *4 out of 5* cars are still *without any floor protection.* More cars are being driven, more money is invested in automobiles, people are spending more time in cars than ever before, and *4 out of 5 cars NEED KAR-RUGS.*

What a market for KAR-RUGS!

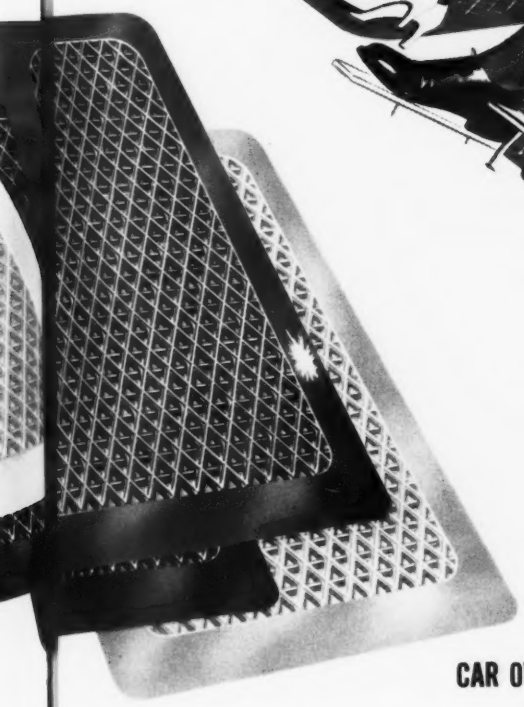
ONLY KAR-RUGS HAVE THE BEAUTIFUL COLOR SELECTION TO MATCH TODAY'S MODERN CARS

HOLIDAY RED, BURGUNDY RED, HOLIDAY BLUE, ROYAL BLUE, HOLIDAY YELLOW, MIDNIGHT BLACK, HOLIDAY GREEN, FOREST GREEN, SILVER GREY.





The Original Rubbermaid® KAR-RUGS



MR. AGGRESSIVE DEALER—take advantage of today's wide open market for Kar-Rugs.

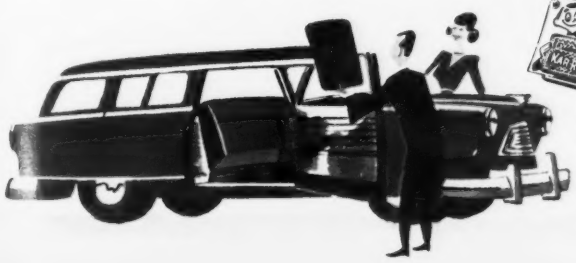
You'll be pleased with the fast turnover Rubbermaid Kar-Rugs enjoy and the increased accessory volume they produce.

Contact your jobber today and have him supply you with a complete assortment. Remember—4 out of every 5 of YOUR customers' cars are not yet equipped with auto throw-rugs.

Offer your customers the BEST at NO EXTRA COST—the original Rubbermaid Kar-Rugs.

CAR OWNERS BUY KAR-RUGS WHERE THEY SEE THESE POINT-OF-SALE REMINDERS

No. 1452	16"x18"	$1.39
No. 1454	18"x21"	1.79
No. 1455	15"x25"	1.79
No. 1459	18"x26"	2.19



MERCHANDISING DISPLAY—shows a good size and color selection in a minimum floor space. Gets Kar-Rugs out front where they are seen and bought.

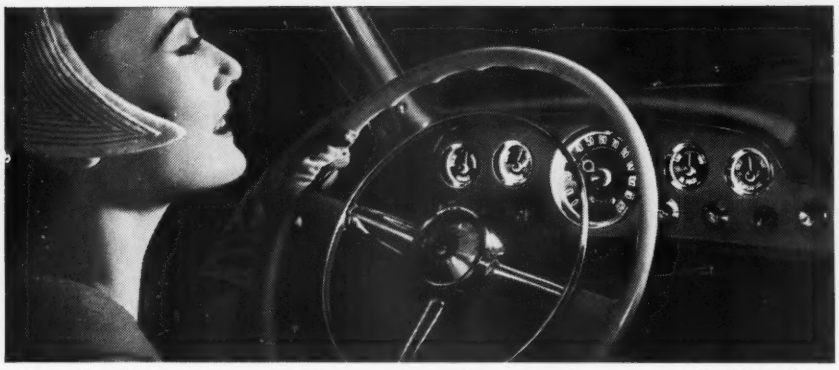
KAR-RUG WINDOW-WALL BANNER—colorful, attention-getting—lets them know you sell famous KAR-RUGS.

KAR-RUG MINIATURE DISPLAY—on the counter. Attracts attention—lets the car owner sell himself on Kar-Rugs.

KAR-RUG SIZE-C-LECTOR—uses idle space on wall or door to invite car owners to dial and see sizes for his car.

ASK YOUR JOBBER OR WRITE US

THE WOOSTER RUBBER COMPANY
WOOSTER, OHIO



Glare-free instrument panel, glamorous complement to decorator-matched interior.

Stop with light pressure on Power Brakes.

From the moment you turn the key in a

DE SOTO AUTOMATIC

you do **less** and the **car** does **more!**

- **because of fully automatic no-clutch PowerFlite drive**
- **because of Full Time Power Steering and Power Brakes**
- **because of new engine might, level ride, balanced weight**

For instance, the astonishingly smooth PowerFlite drive eliminates the clutch and gearshift. Full Time Power Steering does 80% of your wheel work. Power Brakes cut pedal effort in half. ▸ But these optional features are just part of the story. *No other car in its class matches DeSoto's comfort features.* The road-hugging ride stems from a full-width frame that's heavier than ever—plus new No Sway Ride Control for sharp curves and corners. Five kinds of insulation cloak you in soothing silence. The lightning-bolt getaway is from FireDome's mighty 170 h.p. The rich new interiors have the luxury of choice fabrics in beautiful weaves. ▸ In every way that counts for driving that's better than ever—DeSoto is the car of the year! Try a FireDome V-8 or Powermaster Six before *you* decide! De Soto Division, Chrysler Corporation.

DE SOTO-PLYMOUTH Dealers present **GROUCHO MARX** in "You Bet Your Life" every week on both RADIO and TELEVISION . . . NBC networks.

Pop O'Neill . . . . . Continued from Page 102

45 minutes?" Pop wanted to know. "Now you guys can work till this thing is done, and make no mistakes about that. Fine thing. Send two men to do a boy's work and they lose all track of time."

And for once neither mechanic had a word to say.

"Well," Pop said. But Tommy was already into the floor board inspection hole with a test light checking the ignition switch to circuit breaker circuit. He proceeded to check the circuit breaker, the circuit to the solenoid and the circuit to the anti-stall control. Larry followed up at the governor and kick down switch, then at the interruptor switch. "I don't think you'll find any trouble there," Pop said, "but we want to be sure since all these controls are interrelated."

Tommy jacked up the car and they checked the hydraulic mechanism in low range through the interrupter switch hole. "Piston won't budge." Larry grunted. "Oil pump is shot. And that means a tear down."

U. S. motor vehicles traveled more than half a trillion miles in 1953, or a distance equal to 31 round trips to each of the eight other planets in our solar system.

"And that means we'll be here until morning," Tommy wailed.

"Did you check the transmission oil level like I told you?" Pop queried, sticking his head under the car.

"Yep."

"Have we got pump parts in stock?" Larry asked. "If not, you'd better get a rebuild kit. We're going to need it."

"I don't know about that, son. I've never seen a pump wear out at this mileage. And the parts or bore wouldn't be worn so badly that you wouldn't get *some* action."

"Well, it's not pixies, Pop."

"Tear it down. Got to come down regardless," Pop said.

The two men set to work in earnest. It was 2:30, and Judd Cypher needed a car—with a transmission—before evening. "Pop, please go get us pump parts," Larry insisted. "We won't want to get this down and find the shops closed."

"It ain't the pump," Pop growled. "Unless some joker has bolicked it up. I'm betting the pump ain't even turning. The trouble with this transmission is too many mechanics. And too much hurry getting it back together or I'll miss my guess."

Fifty-nine minutes and forty grunts and moans later the transmission was out and on the bench, where Tommy went to work on it. "Now watch when you pull that housing extension off," Pop directed. "And I think you'll see what happened."

(*Continued on page* 108)

Now! After years of Research . . . Millions of Miles of On-the-Road Testing—

STEWART-WARNER ANNOUNCES

A REVOLUTIONARY NEW ELECTRIC FUEL PUMP

More efficient—more rugged—more dependable! The Stewart-Warner model 220 SUPER Electric Fuel Pump is the new "big brother" to the famous Stewart-Warner model 110 Electric Fuel Pump.

Improved motor design gives greater efficiency, cooler operation. At full capacity, the new SUPER PUMP operates at only 250 strokes per minute—far fewer than ordinary pumps. Special fast-breaking switch points eliminate problems of arcing, pitting and burning out. The result is *longer life.*

No Pistons—No Bearings—No Rotating Parts! The new SUPER PUMP is the only electric fuel pump using the diaphragm pumping principle. Operating independently of the engine, it works *only* when carburetor needs fuel . . . saves wear, saves current.

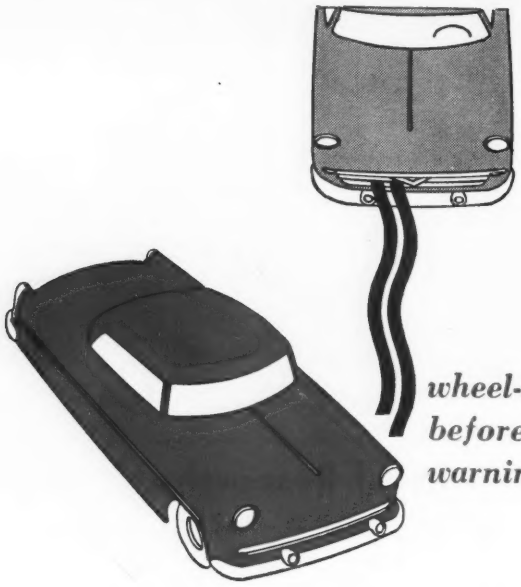
Instant starts in any weather—no vapor lock. Fuel is delivered under pressure the instant you turn the ignition key. Stepped-up pressure means higher efficiency. Delivers 32 gallons or more per hour unrestricted flow.

This great new Stewart-Warner SUPER Electric Fuel Pump is being announced to your customers now. Contact your Stewart-Warner distributor or jobber for further details.

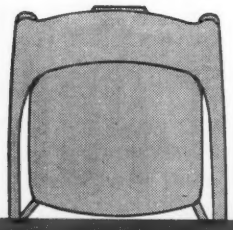
You'll know the new Stewart-Warner Model 220A Super Electric Fuel Pump by its bright green color. The green enamel finish is easy to clean, guards against corrosion.

STEWART-WARNER

Dept. FF-44, 1840 Diversey Parkway, Chicago 14, Ill.



wheel-to-wheel before the warning's heard!



Standard horns lack warning power

DANGER

Since 1930 horsepower has increased 72 per cent. Number of cars on the road has doubled. Horn power has not kept pace. Tests show that at sixty miles an hour standard auto horns are not heard until cars are wheel to wheel. Now Sparton has solved the problem with a third horn to be installed under the hood with present dual shell type horns. This third horn, the Sparton 3-D booster horn — boosts horn power to meet the safety needs of modern traffic. Every car needs a Sparton 3-D booster horn . . . every car is a prospect.

HEAR IT!

MAIL COUPON ON OPPOSITE PAGE

Sparton AUTOMOTIVE Division of THE SPARKS-WITHINGTON COMPANY JACKSON, MICHIGAN

Pop O'Neill . . .

Continued from Page 107

"Say," said Tommy. "What drives this pump anyhow?"

"That's what I'm a'tellin' you, Tommy. There is no rotor drive pin there and there hain't been since the last mechanic put it together. See what happened? You've got to insert that drive pin into the recess of the transmission mainshaft first. And you've got to keep

"Ed, you'd better inventory only big things until hay fever season is over."

it on top so it will slip into the drive slot of the inner pump rotor without falling out on you. Somebody didn't."

"You're right, Pop. There's no pin anywhere around," Larry said. "I've got to hand it to you. You called that one with both hands tied."

"How'd you figure that one?" Tommy said.

The old man grinned. "Well, I could say that I studied the manual while you boys were out joy

THE ODDS ARE 4 to 5

. . . says Harry Cady Minneapolis

SEE PAGES 104-105

riding in this car. But I'd be just as truthful to say that I've had the same trouble getting these assemblies back. One time I darned near did the same thing. Only I checked the drive before I bolted the housing together—like everyone should."

Larry installed a new drive pin and while Tommy put the unit together Pop outlined the case history of Judd Cypher's transmission trouble. "You see he took this in first because it was noisy. I suppose they replaced the drive pinion. But they didn't check all the gears. Next time the direct speed synchronizer went out. That's when it would slip out of 4th. So it proves my point. You've got to check the whole unit when any one gear gives out in a transmission. It just don't pay to replace these things in separate takes. No wonder Judd was boiling."

"Looks like we'll make the deadline after all, don't it?" Tommy said, bringing the transmission over ready to install.

"Yep, Guess so." Pop stuck his head in under the car, where two mechanics were trying to line up the assembly. "But tell me this, Tommy. Where in the blazes were you guys all afternoon? I was sweating it out there for a while. Thought you'd stalled somewhere."

"Well, to tell the truth . . ." Larry started to say.

"Larry, hand me the jack," Tommy yelled.

"We weren't exactly stalled, Pop. We . . . Tommy got the . . ."

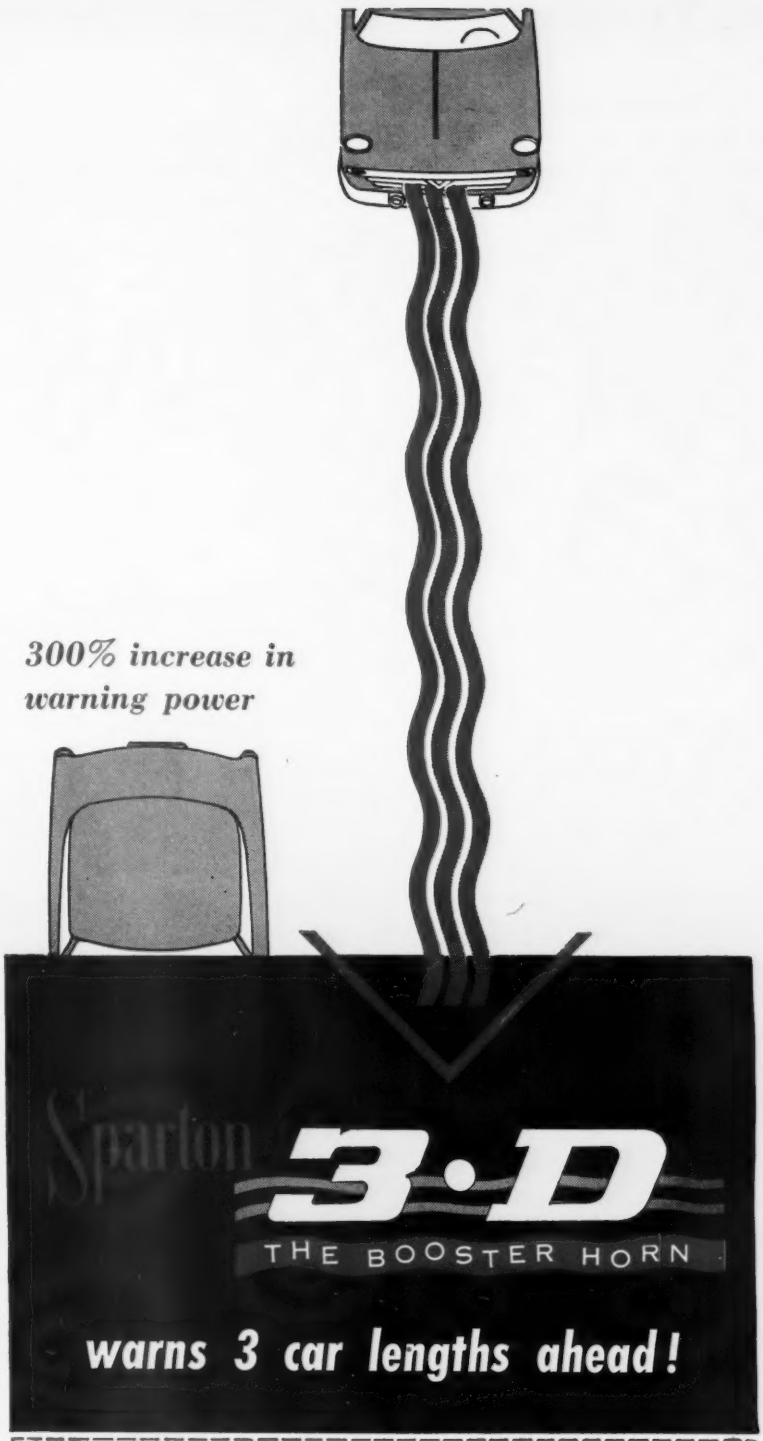
"Push, damn it," Tommy interrupted.

"You see, Pop. There was another Chrysler, same year, and Tommy. . . . Ouch! For Pete's sake, man you mashed my finger . . ."

"What about the other Chrysler?" Pop queried.

"Oh, forget it will you? Let's just say we got delayed at an intersection. It's too dangerous to talk right now. . . ."

> ***"Oh, Doctor, I'm so worried. My husband seems to be wandering in his mind."***
> ***"Don't worry. I know your husband—he can't go far."***



Send me the free record so I can hear how the Sparton 3-D booster horn steps up horn power for modern traffic and learn how it means a big sales opportunity for me.

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Sparton **AUTOMOTIVE** *Division of* THE SPARKS-WITHINGTON COMPANY JACKSON, MICHIGAN

Gas Turbine . . . . . .

Continued from Page 43

was to develop a regenerator that would transfer tremendous quantities of heat at very high efficiencies, and still would operate within the confines of a passenger car engine compartment. For this reason, Chrysler Corporation engineers deliberately designed the test turbine and its compact regenerator unit on the scale of the Plymouth engine compartment. The turbine engine is now operating in a 1954 Plymouth Belvedere sport coupe. This is believed to be the first time a gas turbine has ever been successfully used to power a production model passenger car.

He emphasized, however, that development of the Chrysler Regenerative Gas Turbine does not mean that such an engine is ready for general use.

"Whether we ultimately shall see commercial production of gas turbines for passenger cars," Mr. Zeder said, "depends on the long-range solution of many complex metallurgical and manufacturing problems. There is no telling at this time how long it will take to solve these problems.

The Chrysler gas turbine is almost 200 pounds lighter, and has less than a fifth as many major moving parts as a piston engine of similar power. Fitting easily into the engine compartment of the Plymouth test car, the turbine unit together with its set of reduction gears is only 32 inches long, 33 inches wide and 28 inches high.

Unlike the automotive piston-type engine, the gas turbine delivers its highest torque during breakaway from a stationary position. Moreover, the torque available for acceleration from any given speed within the range of the turbine-powered car is much greater than that produced by piston engines and transmissions.

The Chrysler turbine engine is rated at 120-shaft horsepower, but because of its torque characteristics, it delivers essentially the same performance at the rear wheels as a 160-horsepower piston engine with transmission.

The major components of the Chrysler gas turbine are its air compressor unit, a first-stage turbine, which drives the compressor and furnishes power for the accessories, the regenerator, which recovers heat from the exhaust gas to warm up incoming fresh air; the burner or combustion chamber; and a second-stage turbine, which transmits power through a set of reduction gears to the differential and rear wheels.

In the Proving Grounds tests, the Chrysler gas turbine burned straight-run gasoline, carried in a standard 17-gallon Plymouth fuel tank. However, any of a wide range of petroleum fuels may be used, from gasoline to heavy fuel oil.

The turbine's surging power is inherently vibration-free, because combustion is continuous, and be-

(*Continued on page* 115)

REPAIRS FENDERS

ALTERS FRAMES

SPEEDS CUSTOM JOBS

NOW! GET MORE PROFIT FROM SERVICE JOBS

with this LOW-PRICED LINCWELDER AC-250-K

DIRECT READING CURRENT
Range 30 to 300 amps

CONTINUOUS CONTROL
No Compromise for Quality

INSTANT START ARC
with the ARC-BOOSTER

SIMPLE TO INSTALL
Operates on Single Phase Power

MAKES DEPENDABLE WELDS ... at lowest cost

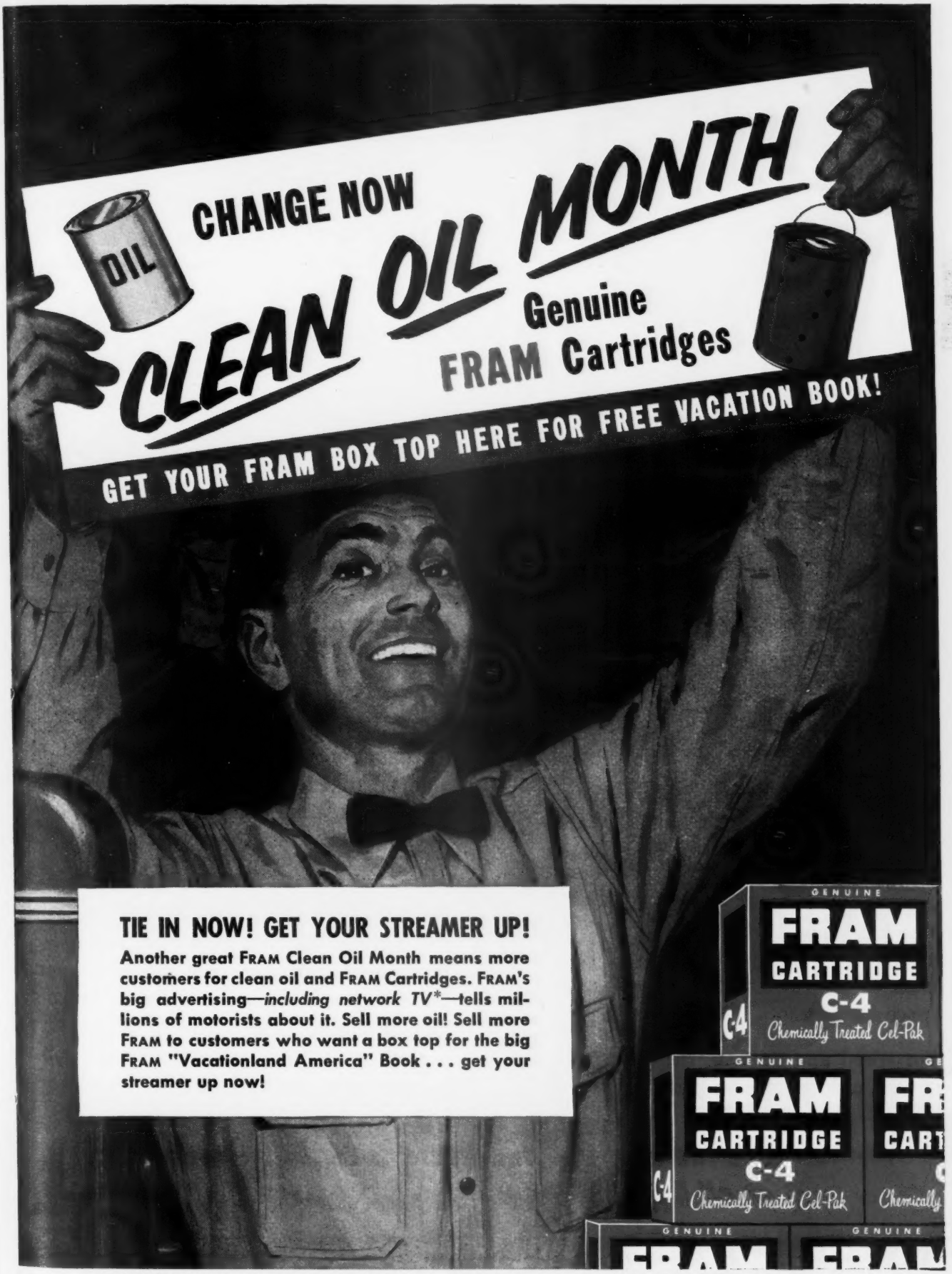
You Can Count on Lincoln for strong, quality welds every time, say garage mechanics everywhere. Lincoln's hot-start arc and easier welding cut costly manhours . . . boost your profits on every job.

That's why Lincoln is top choice for saving money in shops from coast-to-coast. Compare Lincoln's amazing low price before you buy any welder. Get cost-cutting facts by writing

THE LINCOLN ELECTRIC COMPANY
Dept. 4002
CLEVELAND 17, OHIO

LOOK TO LINCOLN FOR LEADERSHIP
The World's Largest Manufacturer of Arc Welding Equipment

This advertisement will appear in the April 3, 1954 issue of THE SATURDAY EVENING POST



*FRAM VACATIONLAND AMERICA starring John Cameron Swayze on 'Today' (NBC-TV) with Dave Garroway.
(In California on "Panorama Pacific.")
FRAM CORPORATION, Providence 16, R. I. Fram Canada Ltd., Stratford, Ontario.

New Profits

...NEW Complete Rod Increases Profits In Your Own Shop

More and more shops have found it necessary to recondition the crankpin end of the rod to insure a true bearing surface for the rod insert. This new rod reconditioning method will increase your profits by doing the job in your own shop.

You can now do the whole job *in less than 25 minutes:* disassemble a set of six rods, grind rods and caps at the parting line with the new Sunnen Cap and Rod Grinder, reassemble and hone rods to standard sizes. Not only is the actual work done better and faster, but you also eliminate pick-up and delivery time, get your customer's car back to him in less time, and release floor space for new jobs.

For speed and quality, the Sunnen method is also unsurpassed in pin fitting: you can fit oversize pins—in six pistons and in six rods—*in less than 20 minutes total time,* to the exact pin clearance as specified.

The complete job—rod reconditioning and pin fitting—is done in less time than by any other method. The Sunnen method assures accuracy, eliminates comebacks, and builds your prestige and profits. Yet with all these advantages, the Sunnen Complete Rod and Pin Shop is by far the lowest priced equipment on the market.

By adding the Cap and Rod Grinder, the rod honing Mandrel Sets and the AG-300 Precision Clearance Gage to your Sunnen Wet Honing Machine, you are set up to get this profitable new business. Write direct to the factory—or ask your Sunnen jobber to arrange a demonstration.

See the New Cap and Rod Grinder in Operation at all Regional Automotive Trade Shows

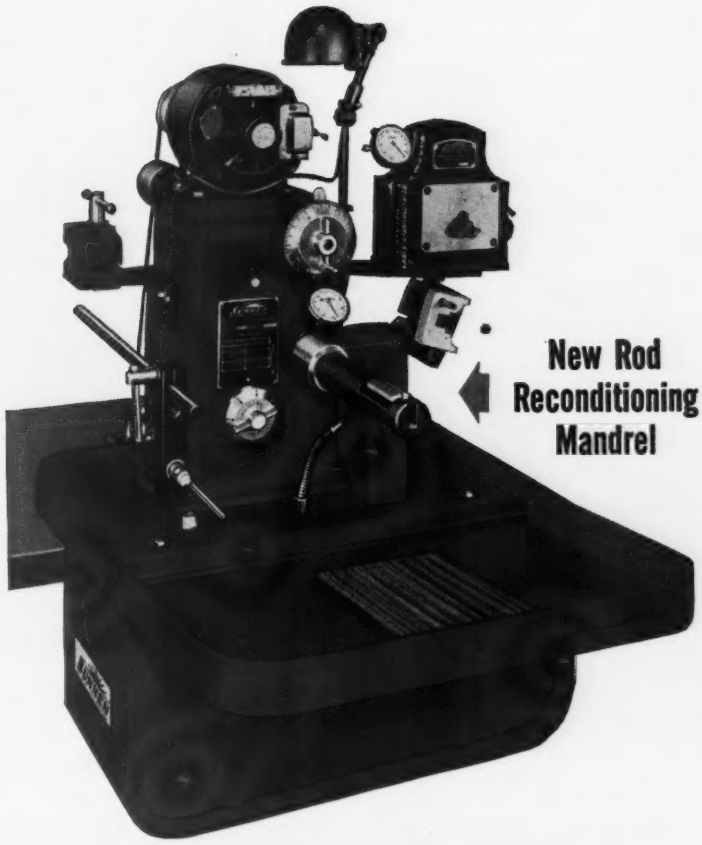
SUNNEN® PRODUCTS COMPANY
7918 Manchester Avenue • St. Louis 17, Missouri

SUNNEN

& Pin Shop

For Your Shop

New Sunnen Cap and Rod Grinder Model CRG-500. Includes a cap and rod assembly fixture and diamond dresser. Micrometer feed-up sets actual depth of cut. Precision ground table assures squareness of cap and rod faces.



New Rod Reconditioning Mandrel

LBA-666 Bench Type Sunnen Honing Machine (includes precision pin fitting and rod reconditioning gage, and rod work support), shown equipped with new rod reconditioning mandrel. The design of these new mandrels makes it possible to round up the rod bore immediately and bring the hole to size without any preliminary operations.

A Sunnen Field Engineer will demonstrate this equipment right in your own shop without obligation to you.

SUNNEN® PRODUCTS COMPANY
7918 Manchester Avenue • St. Louis 17, Missouri

UNIVERSAL REPAIR KIT SERVICES ALL CHEVROLET ROCHESTER CARBURETORS

- Contains 12 different fast-moving parts for normal replacement and overhaul.
- Services millions of Chevrolet Rochester Carburetors in use since 1950.
- Often eliminates need for requisitioning individual parts.
- Kit designed to conserve shelf space—colored and numbered for quick identification.
- Includes illustrated instruction sheet that covers installation, engine tune-up, and carburetor adjustment.

Safety FEATURED IN KOOL-KUP LIGHTER FOR 1954 CHEVROLET

Because its heating element is located at the bottom of a cup-like shield, called Kool-Kup, this newest Rochester Products Lighter can be handed from person to person while red hot, or even dropped on clothing or upholstery, without fear of burns.

ROCHESTER PRODUCTS
DIVISION OF GENERAL MOTORS
ROCHESTER, N.Y., U.S.A.
ALSO MANUFACTURERS OF GM STEEL TUBING

ROCHESTER CARBURETORS

Gas Turbine

Continued from Page 110

cause its few moving parts rotate smoothly on ball or roller bearings.

Since the gas turbine is air-cooled, it requires no radiator or liquid cooling system. The closest thing to a radiator on the Chrysler turbine engine is a small, finned cooling tube for the lubricating oil. This is mounted in the intake air passage.

The gas turbine's electrical system consists of a storage battery, starter-generator, coil, breaker, and a single spark plug—which is needed only in starting.

The transmission component in the present test model is used for the sole purpose of providing a reverse gear.

In a piston engine temperatures of exhaust gas leaving the manifold are about 1,000 degrees F when idling and 1,400 degrees during full-throttle acceleration. Comparable temperatures of exhaust gas leaving the regenerator of the Chrysler gas turbine are many hundreds of degrees lower. In both types of engines the exhaust gas temperature continues to drop as it travels toward the tail pipe. Since the exhaust leaving the 10-inch-wide elliptical tail pipe of the turbine-powered Plymouth is much cooler than that discharged by a conventional piston engine, the hazards previously associated with turbine exhaust are eliminated.

GM Acceptance Shows Net Gain in 1953

A substantial increase in net income for 1953 was reported by General Motors Acceptance Corp., the car financing subsidiary of General Motors Corp. Net earnings totaled $28,626,359 compared with $21,062,683 in 1952.

According to its annual report, the corporation raised the amount of receivables outstanding from $1,722,208,000 in 1952 to $2,468,319,000, an increase of 43 per cent. On Dec. 31 the corporation had 3,253,000 accounts outstanding, compared with 2,494,000 in 1952. The corporation's total capital funds rose from $238,900,000 at the end of 1952 to approximately $397,500,000.

NEW REVOLUTIONARY PORTABLE LUBRICATOR

ARO•PAK

Air Primed . . . No Compressor Needed

- ★ Ideal Portable Unit—for everyday or auxiliary use . . . indoors, outdoors, anywhere!
- ★ One Hand Operation . . . has handy carrying strap!
- ★ Holds 5 lbs. grease
- ★ Powerful . . . Pressure to crack any fitting!
- ★ Light weight . . . only 15 lbs. full!
- ★ Visual grease level indicator
- ★ Easy to Fill . . . by hand or with gun filler unit.
- ★ Volume control nozzle . . . full swiveling . . . with pressure booster feature
- ★ One year guarantee

See your ARO Jobber

THE ARO EQUIPMENT CORPORATION, BRYAN, OHIO

Aro Equipment of Canada, Ltd., Toronto 1, Canada

ARO ®

LUBE EQUIPMENT

Also . . . AIR TOOLS . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

How To Earn $2,000 Extra

POST

Country Gentleman

1. Put Up

Register as an AP Muffler Specialist and put up this colorful decal. It identifies you as the specialist to whom Post and Country Gentleman ads direct millions of motorists for expert muffler service. They'll be looking for *you!*

2. Look Up

Check the muffler and pipe of every car your men get on the lift or pit. Three out of ten cars need exhaust system service and that is the place to prove it profitable. AP's free inspection tags on every car you service mean more business for *you.*

3. Ring Up

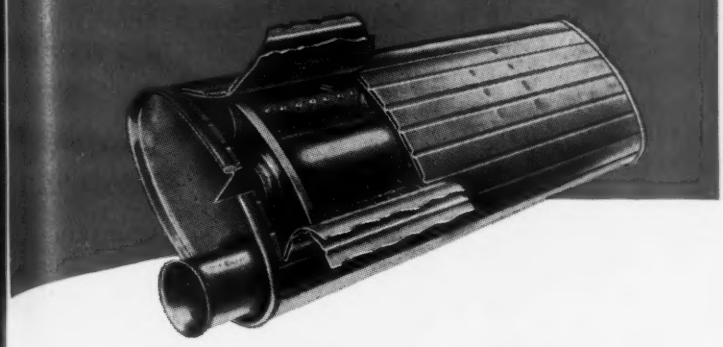
You'll ring up hundreds of extra muffler sales if you're a registered Muffler Specialist. And you'll ring up more volume and profits, tool

More *horse* power

with AP

More *sales* power

This Year



For easy extra profits, cash in with the nationally advertised AP Muffler Specialist Program! You'll make $2000 extra per year selling just one muffler and pipe per day! Here's the story:

	1 AP MUFFLER	1 AP PIPE	LABOR	TOTAL
You collect...	$9.00	$5.20	$4.00	$18.20
Your cost....	5.80	3.40	2.00	11.20
You make....	$3.20	$1.80	$2.00	$ 7.00

$7.00 x 6 jobs per week or 312 jobs per year gives you $2,184 per year profit!

Three out of 10 cars need muffler and pipe service. To help you sell this huge market, AP backs you up with mufflers and pipes made to car factory standards or better; free sales promotion material; free inspection tags; and *national consumer advertising* that tells motorists to seek out the AP Muffler Specialist. Get your full share of extra muffler profits—be an AP Muffler Specialist. Register with your AP wholesaler today.

THE AP PARTS CORPORATION
1585 AP Building • Toledo 1, Ohio
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123

©The AP Parts Corp., 1954

Curtice Gives Outlook For Spring and Summer

President Harlow H. Curtice of General Motors said at a recent news conference that GM dealers are approaching the traditional spring upturn in automobile sales in a "very comfortable position." Curtice stated that he did not know how competitive firms were faring but that his company was "coming up to the high selling season with less stocks on hand than might have been expected."

Mr. Curtice also:

1. Hit again at the "vicious practice" of automobile "bootlegging" and said General Motors would "do everything within the law" to stamp it out. He said he was "hopeful of a real solution within a reasonably short time."
2. Said General Motors plans no price changes on its 1954 automobiles.
3. Described automobile customer credit as remaining on a "very sound basis."
4. Said the auto industry's steel supplies have been "adequate" since the middle of 1953.
5. Called for expanded highway construction and improvement programs. He said he thought it was comparatively "unimportant" whether these were financed locally, by State-Federal cooperation, or other means as long as they are accomplished.
6. Firmly denied that there is a production war or overproduction in the automotive industry.

AAA Trucks Use 2-Way Radio

Rapidly changing winter weather provided a severe initial test for the two-way radio system recently installed by the AAA Automobile Club of Syracuse, according to the General Electric Company, who supplied the system.

"The unusual conditions of snow, sleet and rain have shown that the two-way radio system is tremendously successful in our emergency road service operation," club secretary Harry E. LaVier reported to the company.

The system, installed last January, is designed to speed emergency road service to a large portion of the club's 22,000 members throughout Central New York.

The radio system links the Auto Club headquarters with six strategically-located AAA service trucks. Calls from motorists for assistance may be relayed immediately to the nearest truck by radio. The need for the trucks to return to their home garages for their next assignment is therefore eliminated, and service greatly speeded.

Al: That gal certainly does put on the dog.
Jim: What do you mean?
Al: Her father is an undertaker down in Georgia and she tells everyone he's a southern planter.

---

clay model together with a full-sized trim buck for presentation to corporation officials and officials of the Divisions.

The clay model is the basic medium of expression since it lends itself so readily to the modeling of form and line as well as to detail changes before final acceptance.

Formerly the approved clay model served as the master from which a combination wood-and-metal body was created with the aid of templates and patterns taken from the clay form. In the usual rush of pre-model work the wood body and its dummy chassis oft times had to serve as a show car. At best this was not very satisfactory since the wood model cannot tolerate too much handling or opening and closing of doors. Moreover, the wood dummy was useful only for evaluating design and show purposes and could not be shown in motion on the floor or on the road.

Besides the obvious drawbacks of the wood structure, it is costly to make and requires considerable time in the making.

Today the styling section prepares full-sized plaster molds directly from the clay model, uses them as female molds for making the large Fibreglas panels from which the plastic body is integrated. Reinforced plastic bodies are fabricated in complete form together with inner panels and trim, front and rear end sheet metal, etc., and finished in specified colors.

The plastic body has many important advantages. In the first place, it can be mounted on a chassis—the same as a production steel body—and the resulting car then can be used not only for show purposes and model photographs but for routine testing on the road and on the proving grounds. In fact, the plastic car looks so much like its steel counterpart that one must strike a panel to find the difference.

From the standpoint of the styling section it has a very noteworthy advantage. Modern styling is designed for motion. It was impossible to demonstrate motion with the former wood body. But the plastic job can be put in motion on the floor or on the road, thus making it possible to demonstrate it to corporation executives.

It is a matter of record that the plastic body not only is a useable product but it can be produced quickly under pressure of time, saving precious days and weeks during periods when time is at a premium. This characteristic is by far more important than the fact that the plastic body is actually less expensive to make.

Great results cannot be achieved at once. We must be satisfied to advance in life as we walk, step by step. *Samuel Smiles*

Proved in actual use for years . . . Accurate's Flat-top Cushion design is today's best answer to clutch facing wear. Not like ordinary marcel-wave type cushions that wear facings unevenly and cause scoring of flywheel and pressure plate . . . the Accurate Flat-top cushion design incorporates flat, parallel cushion surfaces that distribute wear evenly over the *entire* facing surface. The Accurate Clutch lasts longer and *retains* its cushioning efficiency. Additional exclusive Accurate features include special patented spring supports and self-aligning hub splines. This, plus complete vehicle coverage, makes Accurate the *one* outstanding clutch line on the market today. Ask your Jobber about Accurate.

The Accurate Clutch Set includes a new Powerflex® Clutch Plate and a precision re-manufactured pressure assembly . . . the perfect pair.

CLUTCH Accurate SERVICE

Accurate CLUTCHES

ACCURATE PARTS MANUFACTURING CO.
1600 S. Ashland Ave., Chicago 8, Illinois

A UNIT OF MAREMONT SINCE 1877

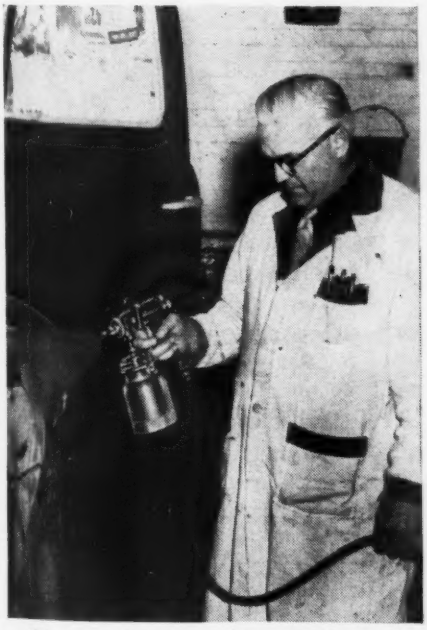
HOW TO PICK THE BEST SPRAY GUN FOR MODERN AUTOMOBILE REFINISHING

To do a real factory-quality job in refinishing today's fine cars, it is important that the equipment used—especially the spray gun—have performance characteristics like the gun used by the manufacturer who applied the original finish.

In selecting a spray gun, first satisfy yourself that it atomizes well. This is essential for a smooth, uniform finish. Then, check the air and material controls. Are they conveniently located for quick, easy operation—even with gloves on?

Consider, too, a gun's balance. It should feel right in the hand. A well-balanced unit does better work. You'll find a two-fingered reinforced trigger easier to use. Make sure that the spray gun you buy has large air passages. Small passages restrict air flow. Check also to be sure that the gun does not leak air at any point.

Unquestionably, a gun should be ruggedly made. A drop-forged aluminum body, for example, gives strength without weight. A hardened steel needle valve will resist wear and corrosion.



Many refinishers select Binks Model 18 Spray Gun which was designed to incorporate all these desirable features in a single gun. The "18" is used widely on automobile production lines and for refinishing work in local auto shops.

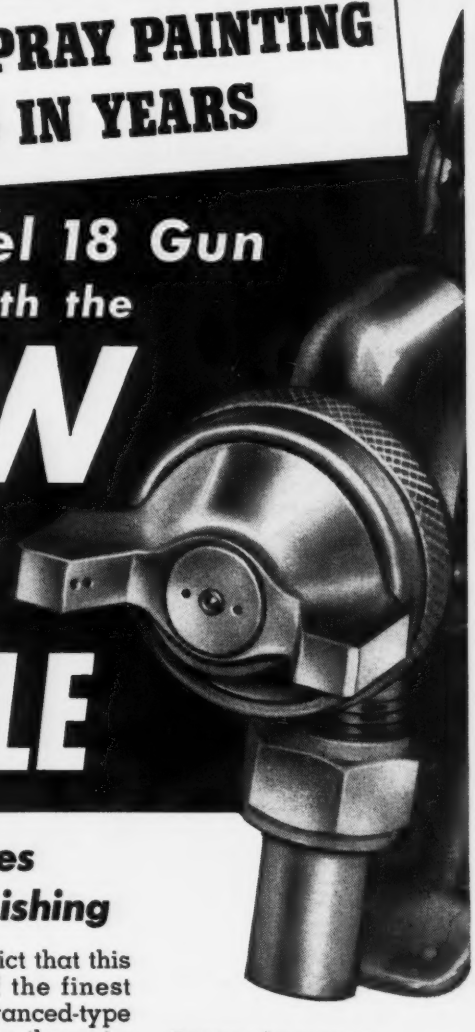
Full information on this production-type equipment may be obtained by writing direct to the manufacturer, Binks Manufacturing Co., 3124-34 West Carroll Ave., Chicago 12, Ill.

(Advertisement)

BIGGEST SPRAY PAINTING NEWS IN YEARS

Binks Model 18 Gun equipped with the

NEW 66SF NOZZLE



Revolutionizes automobile refinishing

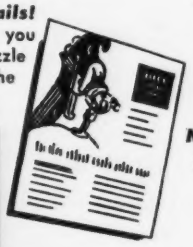
Spray painting experts predict that this new super-combination of the finest spray gun and the most advanced-type nozzle will be a sensation in the automotive shop. This unmatched nozzle and gun give you better finishes...easier and faster.

The "18" gun is an established favorite everywhere...and the ability of the 66SF Nozzle to do a better job, *especially with synthetic enamels and lacquers,* is assured by six *exclusive* features. You will find this highly effective combination to be a real producer for you.

Better six ways:

- **Double atomization** means smoother finishing, better lapping.
- **A wider spray pattern...** fewer passes required.
- **Uses less air—saves** on compressor operating costs.
- **15% faster** material flow.
- **More efficient** with lacquers and synthetics.
- **Cleaning time reduced.** Nozzle stays cleaner longer.

Send today for complete details! Ask for Bulletin 66SF which gives you full information about the new nozzle for Binks Model 18 Spray Gun—the finest combination for refinishing.



BINKS
MANUFACTURING COMPANY
3124-34 West Carroll Ave.
Chicago 12, Ill.

Binks
EVERYTHING FOR SPRAY PAINTING

BINKS MANUFACTURING CO., 3124-34 West Carroll Ave., Chicago 12, Ill.

Send me a copy of Bulletin 66SF— FREE

Name_____
Company_____
Address_____
City_____ Zone____ State_____

Country Style . . . . . Continued from Page 46

When a marriage takes place the newlyweds get their first letter from the Chief offering his congratulations and suggesting that now that they have established a new family group, this is the time to begin thinking seriously about preventing traffic accidents.

When the first baby is born (or any subsequent baby) the mother gets her second letter from the Chief suggesting that now is the time to begin making specific plans for its safety and preservation. Parents, the letter says, must accept the responsibility of keeping little children off the streets.

When the kiddie is three years old, the third letter comes stating that the child is now eligible for the baby-sitter service sponsored by the Police Athletic Association. The letter goes on to say that any afternoon for a period of two hours while the mother goes shopping or attends to other essentials, the child may be left under the supervised care of the Association.

Just before the child starts off for his first day at school—usually at six years of age—a policeman calls at the family door, armed with a map of the city. On the map he explains to mother just where the family home is located and where the school is located and then works out with her the best and safest route to school.

A few years later the child is urged to join the town's Bicycle Club and to enter a Safety Slogan Contest which is conducted each year and for which four shiny new bicycles are offered as prizes.

In high school, as soon as the proper age is reached, the teenager is then offered a free and carefully sponsored course on Driver Training which comes complete with a well qualified teaching staff and full fledged dual-controlled training cars. These are paid for by a town's banking institution as a public service.

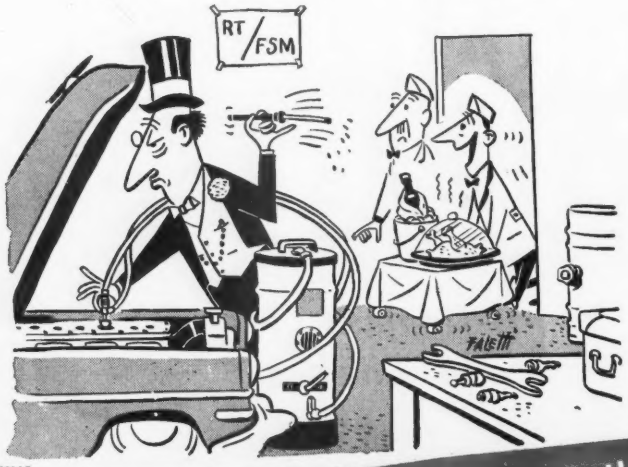
When licensing age is reached, the Teenage Roadeo comes into play and is well organized to supplement the Driver Training Program and bring home the need for careful and technically good driving.

As a result, not a single traffic fatality in the past two years. When the kids reach adulthood they are ready to tackle such other problems as off-street parking facilities, a series of safety slogans which appear regularly on metered mail, carefully planned traffic movements and still other activities which have put the town on a nationwide safety map.

Chevrolet Pays Out $1 Million For Ideas From Its Employes

Chevrolet Motor Div. reports it has paid out $1 million to employes under its Suggestion Award Plan, being the first automotive division of GM to reach that total. The plan was started in 1942 for hourly rated employes. The maximum award is $2500 for ideas on improving production methods or material savings.

"Nuthin's too good for Chadwick since he doubled tune-up profits with Carbon Blast Tune-up Service!"



There's profit in every job you do with the Kent-Moore "Head-On" Carbon Blaster!

Fact is, you can *more than double* your tune-up profits with Carbon Blast Tune-up Service! And here are figures to prove it . . . According to industry surveys, an average charge for a minor tune-up runs $5.95, average labor costs, $3.00. That leaves you with a net profit of just $2.95 per job.

Now, take that same $5.95, and add $1.00 per cylinder for blast-cleaning combustion chambers with the "Head-On" Carbon Blaster. For an eight cylinder car your charge for a Carbon Blast Tune-up amounts to $13.95. Deduct half for labor costs as before . . . even though the added time required for carbon blasting is negligible. That *nets* you a profit of $6.95 on every Carbon Blast Tune-up you sell! And at that rate the machine can pay for itself in a week! Sound good? It is! So contact your local Kent-Moore Distributor today!

Yours for the asking!

New Service Tool Guide describes and illustrates the entire line of Kent-Moore Special Service Tools covering nine leading makes of cars. And it's FREE . . . yours for the asking without obligation. So send for it today!

KENT-MOORE ORGANIZATION, INC.
5-105 General Motors Building • Detroit 2, Michigan

Engineers and Manufacturers of Special Automotive Service Tools and Equipment

Dealers like it... spray men like it!

...because Lion Nokorode is sprayed on thinner (1/16″), dries faster, lasts longer, goes farther... Makes the whole operation from application of pressure to the clean-up job *easier, more economical.* Nokorode is a *concentrated,* Uniform Undercar Sealer and Silencer that assures you of customer satisfaction . . . and at the same time gives you *50%* more undercoating jobs from every drum!

Made from start to finish and guaranteed by Lion Oil Company. For complete details about Nokorode and how you can increase undercoating profits, clip this coupon NOW, and mail to Lion Oil Company, El Dorado, Arkansas.

Made under the process of U. S. Patent No. 2393774

by

LION OIL COMPANY

EL DORADO, ARKANSAS

LION

Lion Oil Company
Dept. MA-C.
El Dorado, Arkansas

Please send me free complete information about Lion NOKORODE, the quicker, easier, more economical Undercar Sealer and Silencer.

Name_____

Street_____

City_____ State_____

Dothan Safety . . . . . Continued from Page 46

located—were checked during a six-day period. Twenty-five other cities will be staging similar community-wide safety programs during the first week of May.

Information derived from the Dothan program will be used by the National Safety Council and the Inter-Industry Highway Safety Committee in May, when the Operation Safety theme "Can You See—Steer—Stop Safely—Check Your Car—Check Accidents" vehicle maintenance program is sponsored nationwide.

Cities picked for the LOOK magazine promotion were selected on the basis of their public information as given in the Annual Inventory of Traffic Safety Activities conducted by the Council. Since voluntary vehicle check programs must have a well-informed public to draw from, this single phase of the Inventory outweighed all others when it came to picking the towns.

The Dothan program began back in November. The idea was put to a general meeting at which Mayor Jimmy Thrower, officials from the police department, chamber of commerce, business and professional men, and civic groups sat in. Committees were assigned to handle and promote the following phases of the program: parade, safety booklet, safety lanes, street exhibits, window-sign posters, school contests, publicity, barbecue and costume ball.

Civic programs cost money. But money was no problem to Dothan businessmen when the chips were down. The vehicle check program needed a safety booklet so that motorists going through the lanes would get, in digest form, an explanation of the community program, rules of the road, data on the importance of vehicle maintenance, a quiz to check both car and driving habits, and a digest of the Alabama state motor vehicle laws.

Then came D-Day—the opening of Dothan's big safety week. Bands blared, batons whirled. Dothan's safety parade really got public attention and newspaper space. The Dothan *EAGLE* splashed it all over the front page, added another page of pictures. Fifteen thousand Dothanites lined the streets as soldiers from Camp Rucker, Boy Scouts, Girl Scouts, school safety patrols, civic, service and fraternal organizations marched, and 20 floats and other entries passed before them.

Then Dothan dug into the hard work on the safety lanes. Collier Freeman, safety lane committee chairman, had lined up every car dealer, service shop and jobber in town. They were all on the firing line in unselfish service to their community.

Mechanics checked the ten phases of inspection: brakes, headlights, rear and stop lights, turn signals, tires, windshield wipers,

(*Continued on page* 140)

"Wouldn't consider anybody but Commercial Credit . . ."

Says
MR. I. G. PENDARVIS
President of
Penn Motors Company
Dodge-Plymouth Dealers
Tampa, Fla.

"IF we opened another dealership today, we wouldn't consider any other than the COMMERCIAL CREDIT PLAN. We know they can handle our every financing need. We like COMMERCIAL CREDIT service—the way they handle the whole ball of wax and take the responsibility off the dealer. We like being able to finance our cars from factory to customer. We like the life insurance benefit to customers. We like the way we are allowed to repair our customers' cars. And most of all, we like the common ground we stand on in our entire association with COMMERCIAL CREDIT and their officials. We highly recommend COMMERCIAL CREDIT PLAN to any dealer."

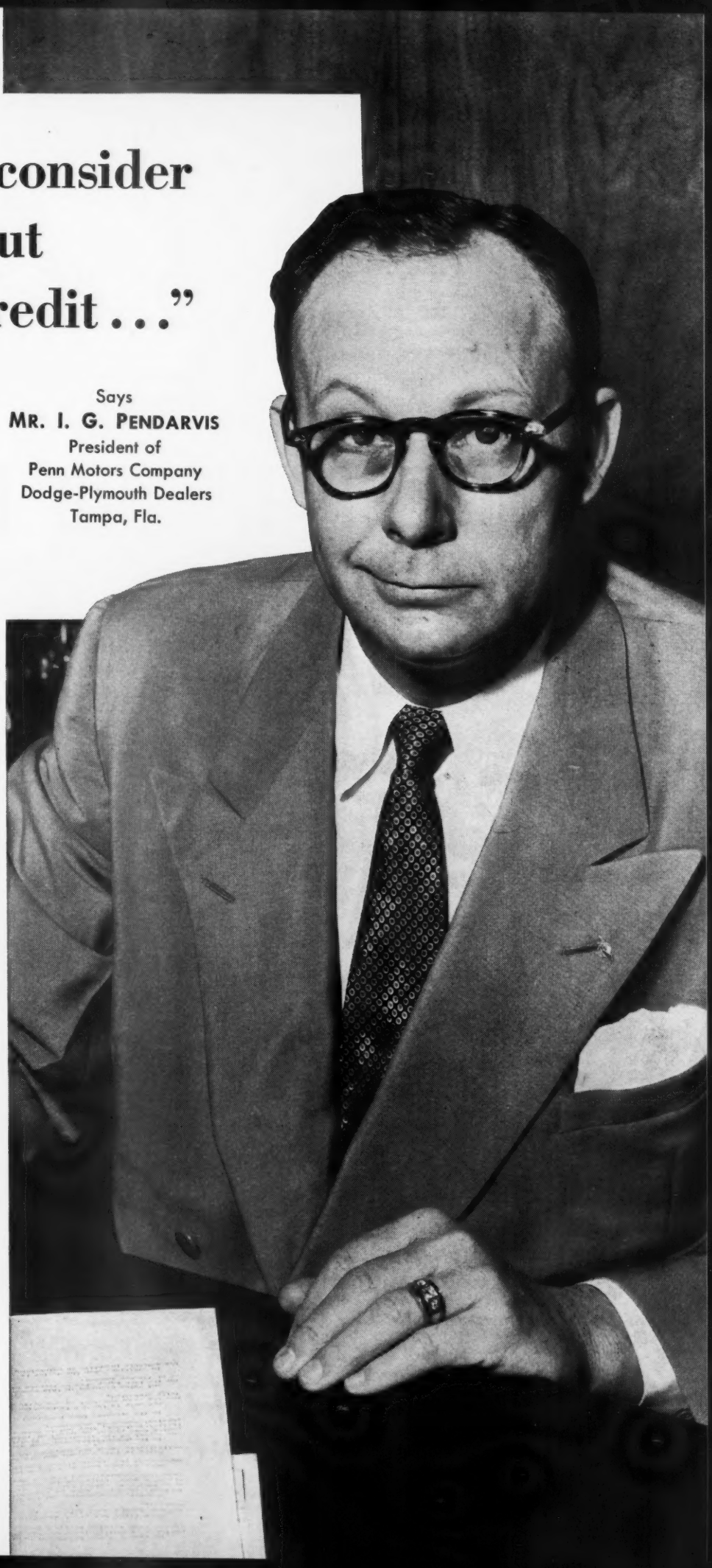
COMMERCIAL CREDIT DEALERS ARE Successful DEALERS

Let us show you how COMMERCIAL CREDIT's broad experience, large resources and complete financing facilities can contribute to your success. Write, wire or phone your nearest COMMERCIAL CREDIT office. You'll get prompt action.

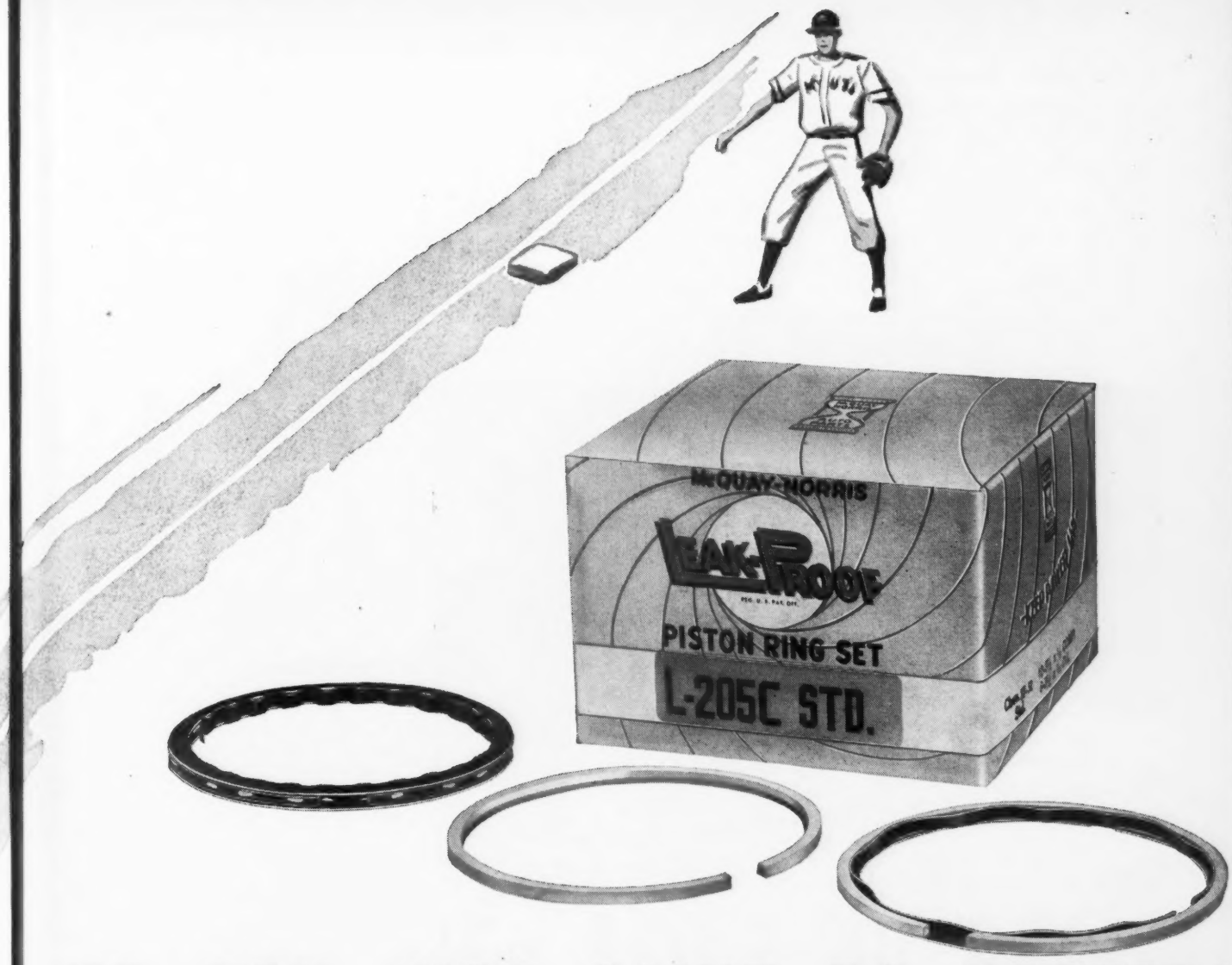
COMMERCIAL CREDIT PLAN

COMMERCIAL CREDIT CORPORATION

A service offered through subsidiaries of Commercial Credit Company, Baltimore .. Capital and Surplus over $145,000,000 . . . offices in principal cities of the United States and Canada.



YOU JUST CAN'T DO BETTER...



NO, YOU JUST CAN'T DO BETTER!

This set will out perform any other piston ring set in the "hard to hold" jobs regardless of kind, design or price

CHROME CONTROL LEAK-PROOF

REG. U. S. PAT. OFF

PISTON RINGS

McQUAY-NORRIS LEAK-PROOF PISTON RINGS FOR YOUR CAR

McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS 10, MO.

New Products . . . . . Continued from Page 70

232. 1954 Model Paint

Acme Quality Paints, Inc.: Pro-Flex Factory-Matched Colors are announced for 1954 Chrysler, De Soto, Plymouth, Dodge, Ford, and Mercury. The product is claimed to offer refinishing shops faster enamel spotting, since Pro-Flex is a combination lacquer and synthetic finish offering the same weathering characteristics of baked enamel and the drying features of lacquer.

233. Plug Service

Champion Spark Plug Co.: Offering important restyling and design improvements, a new cleaning and testing service unit is known as the "700 Series Service Unit." It is offered in both floor and bench

models. New style features of the "700" include a redesigned cabinet with a cut-back in the front panel to provide a handy work shelf; and sturdier channel-type tapered legs in floor models for better appearance and stability.

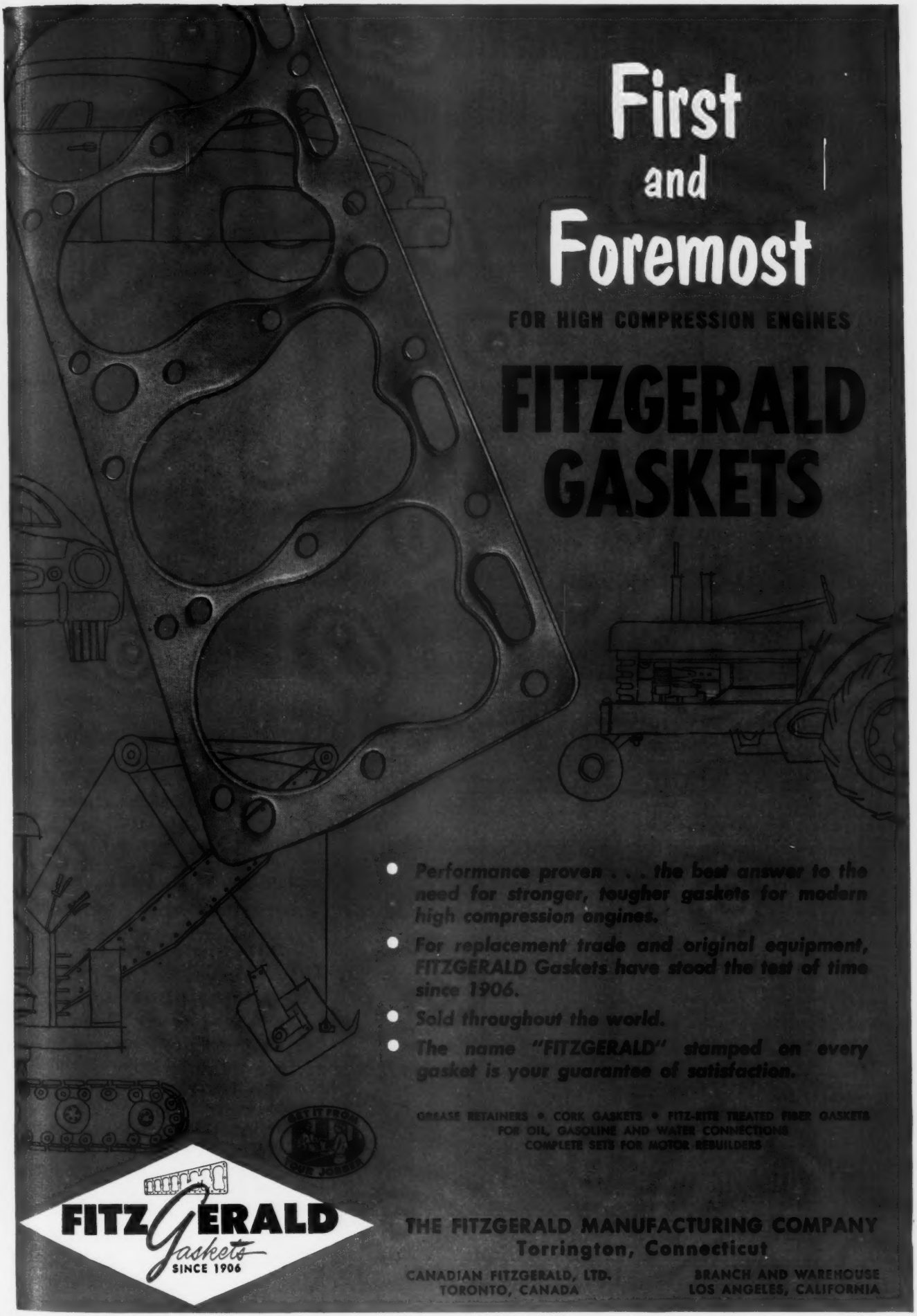
234. Key Safe

Key-Safe: A small combination safe, just large enough to hold one automobile key can be attached to an automobile on the back splash

plate, on the back deck, or under the hood. The finish is a rust preventive type that can be left as is or painted to match car or house.

(*Continued on page* 128)

ECHLIN MANUFACTURING COMPANY
DEPT. MA, 220 EAST STREET • NEW HAVEN 5, CONN.


First
and
Foremost
FOR HIGH COMPRESSION ENGINES
FITZGERALD
GASKETS
• Performance proven . . . the best answer to the need for stronger, tougher gaskets for modern high compression engines.
• For replacement trade and original equipment, FITZGERALD Gaskets have stood the test of time since 1906.
• Sold throughout the world.
• The name "FITZGERALD" stamped on every gasket is your guarantee of satisfaction.
GREASE RETAINERS • CORK GASKETS • FITZ-RITE TREATED FIBER GASKETS
FOR OIL, GASOLINE AND WATER CONNECTIONS
COMPLETE SETS FOR MOTOR REBUILDERS
FITZGERALD
Gaskets
SINCE 1906
THE FITZGERALD MANUFACTURING COMPANY
Torrington, Connecticut
CANADIAN FITZGERALD, LTD.
TORONTO, CANADA
BRANCH AND WAREHOUSE
LOS ANGELES, CALIFORNIA

New Products . . . . . Continued from Page 126

235. Free Sample

Modern Chemical Specialties Corp.: In announcing Speedy White, a new white wall cleaner, this firm offers a free sample bottle to anyone interested in trying it. Applied to the tire with a special sprayer built into each bottle cap, the liquid is allowed to remain on the tire for about two minutes, after which time it is rinsed off with clear water. The manufacturer states that curb marks and other dirt are removed from the tire without any scrubbing. The product is said to be used by professional car washers, and is equally suitable as a resale item. Use the New Product post card to obtain the free sample.

236. Display Rack

Moly Motor Products Corp.: A new automotive Liqui-Moly self-service display rack has been introduced for car dealers, repair shops and other automotive retailers. This rack is given free with the purchase of a case of automotive Liqui-Moly anti-friction engine plating and four tubes of automotive Liqui-Moly Gear Lube Booster for transmissions and differentials. The rack is designed to carry the full line of automotive Liqui-Moly products: fifteen 10½ ounce cans, three one quart cans and six tubes of Gear Lube Booster and complete sales literature is packed with each rack.

237. Spring Pliers

Champion DeArment Tool Co.: The No. 614 Brake Spring Plier, incorporating new "time and temper-saving" features, is a two-in-one tool equipped with standard hook and point for conventional brake springs as well as a newly designed Bendix fitting for late model cars and trucks. The Bendix fitting is so designed that lifting and prying are unnecessary . . . the mechanic simply inserts fitting and turns plier—a groove in the fitting lifts spring off pin. Spring is easily replaced on pin by use of specially designed handle.

For profits, too, nothing beats VENUS Car Finish. VENUS is one of the products included in Hollingshead's 1954 super profit plan for jobbers and their dealers . . . and that means profits above average plus a fabulous dealer premium . . . on a complete line of fast moving chemical items.

Ask your Hollingshead jobber to tell you about the industry's hottest deal!

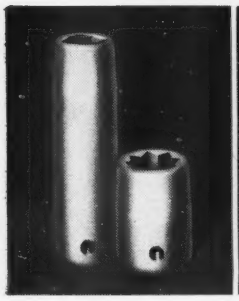
TOP OILER SPECIAL!
Cash in on the growing market for top oilers with the MOTOR RYTHM Lubricator. It's lower-priced, extra dependable! Introductory consumer offer includes MOTOR RYTHM. $8.75

Whiz®

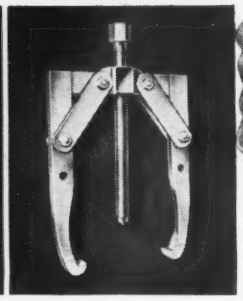
R. M. Hollingshead CORPORATION

LEADER IN MAINTENANCE CHEMICALS
Camden 2, N. J.
Canadian Offices, Toronto • Warehouses: Atlanta, Chicago, Dallas, San Francisco

How to pick HAND TOOLS that help beat the clock

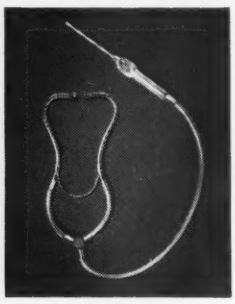


IMPACT SOCKETS — Quality-built to take power-wrench punishment that makes other sockets fail. Are slim and tapered to fit into tight corners. Only special alloy, heat-treated, high-quality steels are used.



PULLERS — 2 and 3 arm models, with single or reversible arms, provide even, non-slip pull. The harder you pull, the tighter they grip. Thin jaws make limited-space jobs easy. Many automotive uses.

WEDG-HEAD — the greatest advance in open-end design in 100 years! Wedg-Head works where no other open-ends can . . . has a tapered jaw that lets you work faster on straight pulls, or at any angle . . . get a solid bite on hidden or thin bolt or nut heads.



AUDIOSCOPE — This mechanical trouble-shooter saves countless hours, results in better jobs. Operating like a doctor's stethoscope, it accurately locates source of the noise. Helps you correct gear, bearing, valve, piston and body troubles in a hurry.

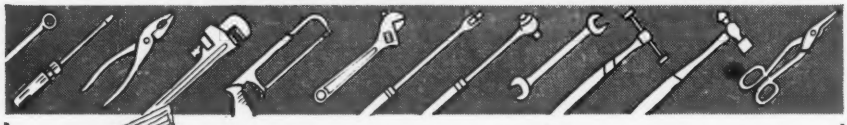
Here are only a few of the extras you get *automatically* when you buy Blackhawk tools. You get "proved in service" design features that speed work and beat the clock on flat rate jobs. You get lighter, better balanced tools that are made from new, high-strength, alloys. Furthermore, you get tools actually proved in the hard, continuous usage that's necessary before any Blackhawk tool can receive the jealously guarded "Service-Proved" seal — your guarantee of genuine quality and extra utility.

So, to buy the right tools, be sure — pick the tools with the Blackhawk "Service-Proved" seal. Here are a few examples of the complete Blackhawk line as it's stocked by leading jobbers.

SYMBOL OF SERVICE PROVED QUALITY

BLACKHAWK®

NEW! COMPLETE LINE OF HAND TOOLS



FREE!

BLACKHAWK MFG. CO.
Dept. M-644, Milwaukee 1, Wis.

Please send me the new illustrated 88-page Blackhawk catalog W-101 on Hand Tools

Name .....

Firm .....

Address .....

City .....Zone .....State .....

Plastic Body . . .

Continued from Page 60

it is sanded and finished to the contour of the part which is then ready for painting.

When more severe damage has occurred and the panel is fractured with a break-through, the loose material is cut away to the sound surface. The underside of the damaged surface is cleaned and sanded and a patch of glass fiber cloth wetted with resin is applied. After the patched surface is hardened the outside surface is sanded and prepared resin is spread on, filling the hole to the contour of the surrounding surface. This is allowed to harden and is then sanded for the conventional painting operations which follow.

If large breaks have occurred, a replacement panel is required. The damaged section of the body is hack-sawed out and the sawed edge is bevelled.

"Other mechanics sometimes have trouble getting a fan belt on too, Hugo, and they don't take that attitude."

The mating edge of the repair panel section is also bevelled forming a "V" for the resin filler. A repair panel is secured in place and reinforcing strips of resin-saturated glass cloth are applied to the underside of the joint. The "V" in the outer surface is filled with resin mixture. After the resin is hardened, it is sanded to the contour of the surrounding surface and painted.

"WE HELP YOU SELL FRAM!"

John Cameron Swayze stars in FRAM VACATIONLAND AMERICA on 'Today' with Dave Garroway (NBC-TV). (In California on "Panorama Pacific.")

Over NETWORK TV Mar. thru Oct. PLUS Big National Ads and Newspaper Campaigns

We're telling millions of car owners from coast to coast to see *you* for Fram protection. And plenty of folks will want that terrific sales booster—the Fram "*Vacationland America*" Book—it's *free* to your customers *for a Fram boxtop!* We're promoting the book to boost your Fram profits and make Fram sales even easier! It's all a part of the biggest advertising program in the business. Don't miss out on the biggest profits in the filter history—sell FRAM!

FRAM®
OIL • AIR • FUEL • WATER
FILTERS

FRAM CORPORATION
Providence 16, R.I.

Fram Canada Ltd.
Stratford, Ont.

New smoke signals from Chief WAUSAU

WAUSAU MOTOR PARTS COMPANY
Wausau, Wisconsin

Rush me complete information on Wausau's Introductory Bonus!

NAME

BUSINESS NAME

BUSINESS ADDRESS

CITY ZONE STATE

mail 'um coupon now FOR HEAP BIG BONUS OFFER!

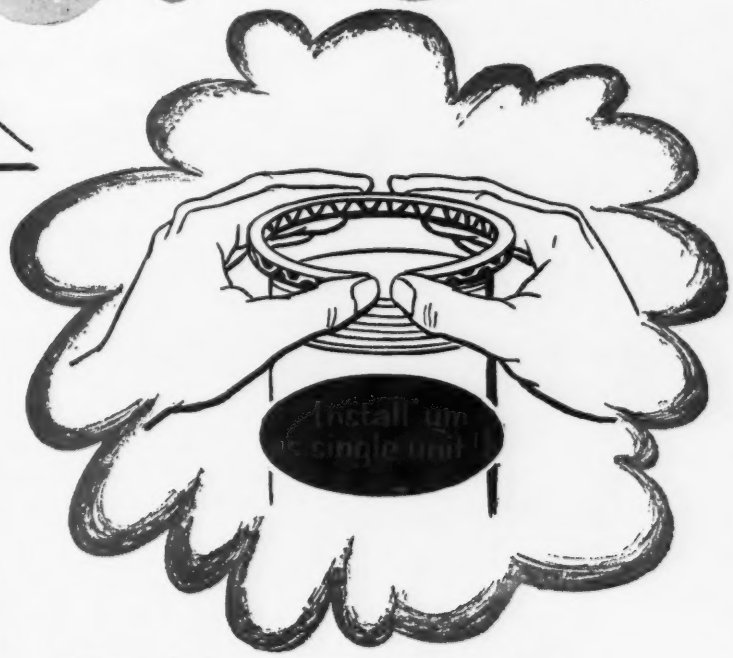
The Wausau Bonus Offer gives you extra profit every step of the way. This, plus Wausau's Bonded Warranty and consumer promotion, makes it an opportunity you can't afford to miss. So don't delay . . . write today!

FAMOUS WAUSAU *Oil-savr* RINGS NOW

"MONOTIZED"*

U. S. Patent No's. 2,140,710 and 2,323,815

AND CHROME CLAD!



*Install 'um as single unit

GET HEAP BIG PROFITS!

That's right—today's big news in piston rings is Wausau's MONOTIZED Oil-savr ring. MONOTIZED is the patented Oil-savr feature that makes a multiple-piece ring a one-piece ring. With this exclusive process, the three-ring components are bonded together with a special adhesive that dissolves during the first engine run, permitting the components to separate and form a perfect contact with the cylinder walls. You install Wausau MONOTIZED Oil-savr rings speedier, easier, and without error. In addition, Wausau MONOTIZED Oil-savr rings are Chrome Clad to reduce wear and have that famous Oil-savr feature . . . a non-clogging, phosphor bronze safety center unit that runs free and cannot score. All Wausau MONOTIZED Oil-savr rings come in Custom Made Sets with Chrome Top Rings—each set individually engineered for each job. Wausau Motor Parts Company, Wausau, Wisconsin.

stock 'um...you'll sell 'um more in '54!!

Calendar of Coming Events

Dealers Conventions

April 15-16 — Automobile Dealers Assoc. of Indiana Convention, Claypool Hotel, Indianapolis.

May 3-4 — Illinois Automotive Trade Association, Leland Hotel, Springfield.

May 10-11 — Missouri Automobile Dealers Assoc. Convention, Muehlebach Hotel, Kansas City, Mo.

May 11-12—Massachusetts State Automobile Dealers Assoc. Convention, Hotel Statler, Boston.

May 18-23—North Carolina Automobile Dealers Assoc. Convention, Cruise to Bermuda aboard the Queen of Bermuda.

May 23—South Carolina Automobile Dealers Association, Ship "Queen of Bermuda."

May 27-28 — Michigan Automobile Dealers Assoc. Convention, Pantlind Hotel, Grand Rapids.

June 3-5 — Washington State Auto Dealers Assoc. Convention, Bellingham, Wash.

June — Automobile Trade Assoc. of Maryland Convention, Ocean City, Md.

June 7-8—Automobile Dealers Assoc. of Ontario Convention, Sheraton Brock Hotel, Niagara Falls.

June 24-27 — Fifth Annual Truck, Trailer, and Equipment Show, Los Angeles.

August—Automobile Dealers Assoc. of West Virginia, Greenbriar Hotel, White Sulphur Springs.

Sept. 10-11 — Colorado Automobile Dealers Assoc., Broadmoor Hotel, Colorado Springs.

Sept. 10-12—Maine Automobile Dealers Assoc. Convention, Samoset Hotel, Rockland.

Sept. 12-13—South Dakota Automobile Dealers Association, Alex Johnson Hotel, Rapid City, S. Dak.

Sept. 17—Kansas Automobile Dealers Association, Broadview Hotel, Wichita.

Sept. 12-14—New York State Automobile Dealers' Convention, Saranac Inn, Saranac.

Sept. 19-20 — Automobile Dealers Assoc. of North Dakota Convention, Fargo.

Sept. 20-21 — Minnesota Automobile Dealers Assoc. Convention, Nicollet Hotel, Minneapolis.

Sept. 20-21 — Wisconsin Automotive Trades Assoc. Convention, Hotel Schroeder, Milwaukee.

Sept. 23-24—New Jersey Automotive Trade Assoc. Convention, Atlantic City.

Sept. 28-29—New Hampshire Automobile Dealers Association, Wentworth-by-the-Sea Hotel, Newcastle, N. H.

Oct. 3-5—Automobile Dealers Assoc. of Alabama Convention, Biloxi, Miss.

Oct. 8-9 — Pennsylvania Automotive Assoc. Convention, Haddon Hall, Atlantic City, N. J.

Oct. 10-12—Texas Automotive Dealers Assoc. Convention, Gunter Hotel, San Antonio.

Oct. 10-12 — Mississippi Automobile Dealers Association, Buena Vista Hotel, Biloxi, Miss.

Oct. 17-18 — Georgia Automobile Dealers Assoc. Convention, General Oglethorpe Hotel, Savannah.

Oct. 17-19—Arizona Automobile Dealers Association, Westward Ho Hotel, Phoenix.

Oct. 17-19 — Tennessee Automotive Assoc. Convention, Peabody Hotel, Memphis.

Oct. 21-23 — New Mexico Automobile Show, Albuquerque.

Oct. 23-25 — Arkansas Automobile Dealers Assoc. Convention, Hotel Marion, Little Rock.

Oct. 24-26—Florida Automobile Dealers Assoc. Convention, Hotel George Washington, Jacksonville.

Oct. 26—Connecticut Automotive Trades Assoc. Convention, Hartford.

Nov. 7-9—Ohio Automobile Dealers Assoc. Convention, Hotel Mayflower, Akron.

Nov. 7-9—Automotive Trade Association of Virginia, John Marshall Hotel, Richmond.

Nov. 7-9—Kentucky Automobile Dealers Assoc. Convention, Kentucky Hotel, Louisville.

Nov. 29-Dec. 1 — Idaho Automobile Dealers Assoc. Convention, Boise Hotel, Boise.

Dec. 2 — Utah Automobile Dealers

(*Continued on page* 136)

At last! An all-new LEAK-PROOF

OIL-FILLED COIL

in the

POPULAR PRICE RANGE

- For all universal coil applications
- Balanced winding for high-compression engines
- Peak output at all speed ranges
- Ideal coil for COLD starts, HOT driving

Popularly Priced, yet outperforms competitive coils at double the price!

Another GP FIRST in the Replacement field

A NEW Concept in Coils

ENGINEERED for Replacement Use

GUARANTEED

Ignition Parts • Wire and Cable

WRITE NOW for New Catalog No. 22

GUARANTEED PARTS CO. Inc. SENECA FALLS, N. Y.

ARE YOU GETTING THE

HYDRA-MATIC

DYNAFLOW

POWERGLIDE

FORDOMATIC

MERCOMATIC

BIG MONEY SERVICING AUTOMATIC TRANSMISSIONS

THESE *New Britain* TOOLS PUT YOU IN BUSINESS • • • • •

Designed especially for quicker, easier servicing of increasingly popular automatic transmissions, this new Family of famous NEW BRITAIN Tools makes it easy for you to make big profits in this fast-growing field. For Hydra-matic transmissions: the AH-10 for external adjustments; the AH-11 and AH-12 for internal adjustments. For Dynaflow and Powerglide: the ADP-10. For Fordomatic and Mercomatic: the AF-10 for front bands; the AF-11 for rear bands. Each tool packed complete with illustrated instructions for use.

These few basic Tools actually open up an automatic transmission service department for you . . . let you take advantage of today's big money-making opportunity. Ask your Jobber about these new Tools today. See how easily you can earn profits in this exciting new field.

HYDRA-MATIC
AH-11 Front Band
Adjusting Tool

HYDRA-MATIC
AH-12 Rear Band
Adjustment Gauge

HYDRA-MATIC
AH-10 External Band
Adjusting Tool

FORDOMATIC-MERCOMATIC
AF-11 Rear Band
Adjusting Tool

FORDOMATIC-MERCOMATIC
AF-10 Front Band
Adjusting Tool

DYNAFLOW — POWERGLIDE
ADP-10 Adjusting Tool

N·A·P·A
Assurance of Quality

New Britain HAND TOOLS

GREATER STRENGTH • BETTER FIT

THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

Coming Events . . . .

Continued from Page 134

Assoc. Convention, Newhouse Hotel, Salt Lake City.

Dec. 2-4—Montana Automobile Dealers Association, Florence Hotel, Missoula, Montana.

Dec. 8—Milwaukee County Automobile Dealers Assoc. Convention, Milwaukee Athletic Club, Milwaukee.

AUTOMOBILE SHOWS

April 17-25 — Seattle Auto Show, Seattle Civic Auditorium

April 19-25 — Denver Auto Show, Denver Municipal Bldg., Denver

April 22-25—Sioux City Automobile Show, Municipal Auditorium, Sioux City

April 27-30—Tri-State Regional Automotive Show, Pittsburgh

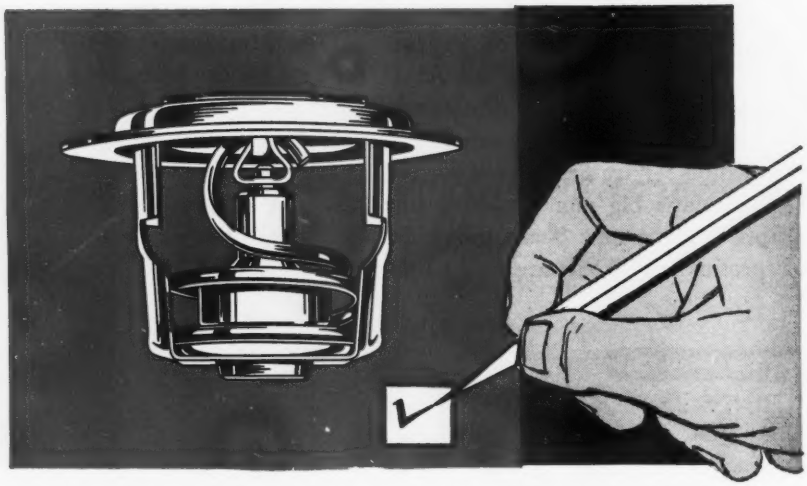
May 12-13 — Southeast Automotive Show, Inc., conference meeting, Buena Vista Hotel, Biloxi, Miss.

May 20-23—New England Regional Automotive Parts and Equipment Show, Mechanics Bldg., Boston, Mass.

May 22-31—Indianapolis Custom Auto Show, Manufacturers Bldg., Indiana State Fairgrounds

May 24-26—Automotive Engine Rebuilders convention, Statler Hotel Buffalo, N. Y.

HOW OFTEN DO YOU CHECK THE THERMOSTAT?



There are plenty of times when a thermostat check should be part of your regular routine. For instance, every motor tune-up job, every major overhaul, every time you change, add or remove anti-freeze . . . they're all good times to check the cooling system and replace a defective thermostat with a Dole DV.

Make a thermostat check a routine habit and you'll sell more parts and make more satisfied customers, too. Dole thermostats are "tops" in quality. They assure improved motor performance, less gas and oil consumption, less motor wear.

Protect Your Good Name with Another

Control with Dole

DOLE

THE DOLE VALVE COMPANY

1933 Carroll Ave., Chicago 12, Ill.

Sell Safety

Continued from Page 49

6. Give widespread distribution of the stopping distance handout piece to customers; through police, safety organization, civic and business group.

7. Use direct mail programs to reach customers.

8. Obtain the cooperation of the local police departments in support of the program and in setting up voluntary vehicle inspection lanes at specific times during the program.

9. Conduct the program as a community-wide activity with the support of police, other public officials and interested groups.

10. In states requiring periodic vehicle inspection by law, the voluntary "Safety Check" will supplement the official program by bringing to the attention of the public the need for maintaining their cars in safe operating condition at all times.

11. Complete and forward promptly on *June 1st,* to Inter-Industry Committee, the self addressed business reply card covering the number of vehicles checked and items in need of maintenance attention. (A business reply card is included with each kit of display materials.)

12. Dealers and dealer organizations are urged to advise the Inter-Industry Committee of plans and progress of the program and send samples of resulting publicity for use in summarizing dealer support.

"500" to Run Monday, May 31

The 38th annual Indianapolis "Classic" will be run on Monday, May 31, this year, since Memorial Day falls on a Sunday.

Wilber Shaw predicts a new race record of more than 130 miles per hour for the 500-mile race this year.

not 5,000,000, not 6,000,000, not 7,000,000, but

8,000,000

Successful Installations

Perfect Circle Nurlizing

gives you these 4 benefits!

- ✶ **Eliminates piston slap**
- ✶ **Gives closer piston fit without scuffing or scoring**
- ✶ **Assures adequate piston lubrication**
- ✶ **Reduces engine overhaul costs**

Perfect Circle Nurlizing has been proved in *over eight million* installations. Nurlizing is fast, accurate, economical, *permanent*...makes worn pistons like new again, at only a fraction of the cost of replacing them! It is the original method of resizing worn pistons by knurling, and although it has been often imitated, it has never been equaled. Insure every engine overhaul with genuine Perfect Circle Nurlizing. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

Beware of imitations... insist on the original

Perfect Circle

Nurlizing

HAVE YOU COMPARED CORK GASKETS LATELY?

In the package, of course, most makes of gaskets look alike. But in the shop and on the road are where important differences show up.

There's where Armstrong-Victor gasket users are realizing the benefits of A-V's exclusive Electronic cork curing process. It preserves the natural liveliness of cork, giving gaskets greater strength and sealing power. It doesn't over-cure or under-cure cork like steam processes can do.

In your shop, modern-made Armstrong-Victor gaskets help you seal a job tight and right on the first try. They fit better because there's no shrinkage. They handle easier without breakage. And on the road, they protect your work against leaker complaints; help you keep customers happy.

NOW BETTER THAN EVER . . .
NO INCREASE IN COST

Now you get even more for your money in Armstrong-Victor gaskets at the price you would pay for ordinary quality. Only Armstrong-Victor's leadership in the cork gasket field makes this possible. Your Victor Jobber carries factory-fresh stocks—in packaged sets or individual pieces—for every make and model you service.

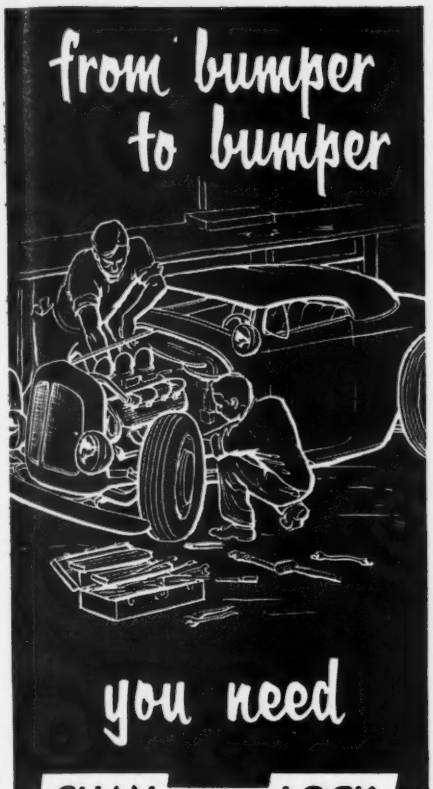
Better look into Armstrong-Victor Cork Gaskets if you aren't using them. Victor Mfg. & Gasket Co., P. O. Box 1333, Chicago 90, Ill.

VIC CORKY SAYS:

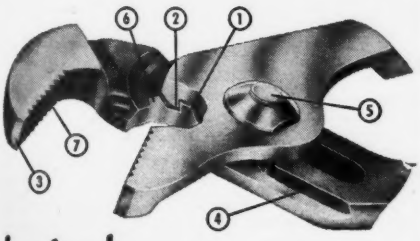
You'll find this 2-notch trade-mark on genuine Armstrong-Victor Replacement Gaskets only.

A Armstrong-Victor

CORK COMPOSITION GASKETS · CORK SHEETS



CHAN NEL LOCK



here's why

1. Interlocking principle prevents slipping under any load. **2.** New type wide base lugs cannot shear. **3.** New nose design for gripping small objects. **4.** Patented design of tension edge eliminates stress concentration at channels. **5.** Interlocking design minimizes stress on joint bolt. **6.** Precision machined interlocking surfaces result in perfect fit, distributing pressure evenly. **7.** "Rite Angle" teeth guarantee maximum bite and minimum wear.

Look for the Channellock line when you're shopping for hand tools. Channellock pliers offer features that you can't get with other makes. And when you buy a Channellock plier, ask to see the full line—you'll find a style and model to do any job better.

CHAN NEL LOCK

THE PLIER DESIGN THAT OBSOLETES ALL OTHERS

CHAMPION DeARMENT TOOL CO. • MEADVILLE, PA.

Boys Town

Continued from Page 66

haul, ignition, body shop, radiator repair—in fact, all phases of automotive maintenance and repair. Instructors are excellent mechanics who like to teach. Relatively small classes allow them the opportunity to give close, individual attention to each boy's work. That is especially true on first projects. Advanced students, as a rule, need only to have their work checked. If they should run into a problem, one of the instructors always is on hand to show them what to do.

A visitor to the auto mechanics classroom is immediately aware of the interest the boys show in their work. Cutaway engines, films, and classroom discussions teach the students the engineering fundamentals they need to know to continue on their way towards becoming capable auto mechanics. Already the older boys seemed to have attained a good understanding of what makes an automobile tick.

Courtesy Magic Circle, Published by Perfect Circle Corp.

"Let's stop and have it out right now—once and for all—what's so wrong with my driving?"

THE ODDS ARE 4 to 5

. . . says
Larry Kelly
Boston

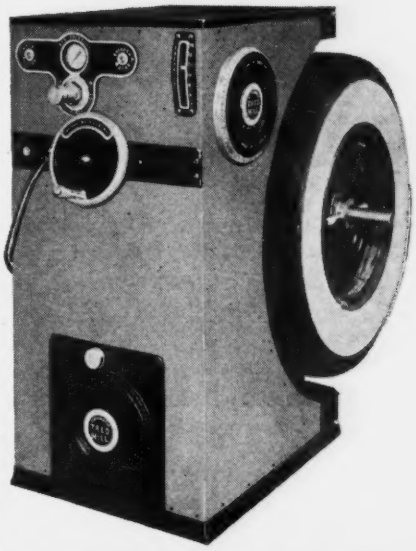
SEE PAGES 104-105

for greater PROFIT

Tire Trueing

IN LESS THAN 5 MIN. PER TIRE

THE NEW AUTOMATIC "TRED-MILL"



ELIMINATE THUMP AND VIBRATION CAUSED BY OUT-OF-ROUND TIRES

Three HP motor provides power and speed to do a smooth, profitable job. Automatic oscillation permits trueing to the exact radius of each individual tire.

SEND TODAY FOR INFORMATION

Beeline co.
DAVENPORT, IOWA U.S.A.

Dothan Safety . . . . . Continued from Page 122

muffler, glass, horn, steering and rear view mirror. Since inspection was voluntary and there was no penalty for failure to pass, observers wondered what the reaction would be. They were soon answered.

Repair shops were soon flooded with business. Drivers were surprised to find defects in their vehicles and wanted them corrected. One Dothanite had a repair bill of $191 when he had his car fixed after the safety check. He put it through the lane a second time, got his sticker. But one classic example is the driver who found that only his car's horn got a clean bill of health on the safety check. Disgusted, he drove it over to a salesroom, traded it in on a new car, passed the vehicle check and got his sticker.

Every driver going through the safety lanes got a vehicle check card. The stub was good for admission to the army variety show and the big barbecue which would wind up the program. It was a good promotional angle.

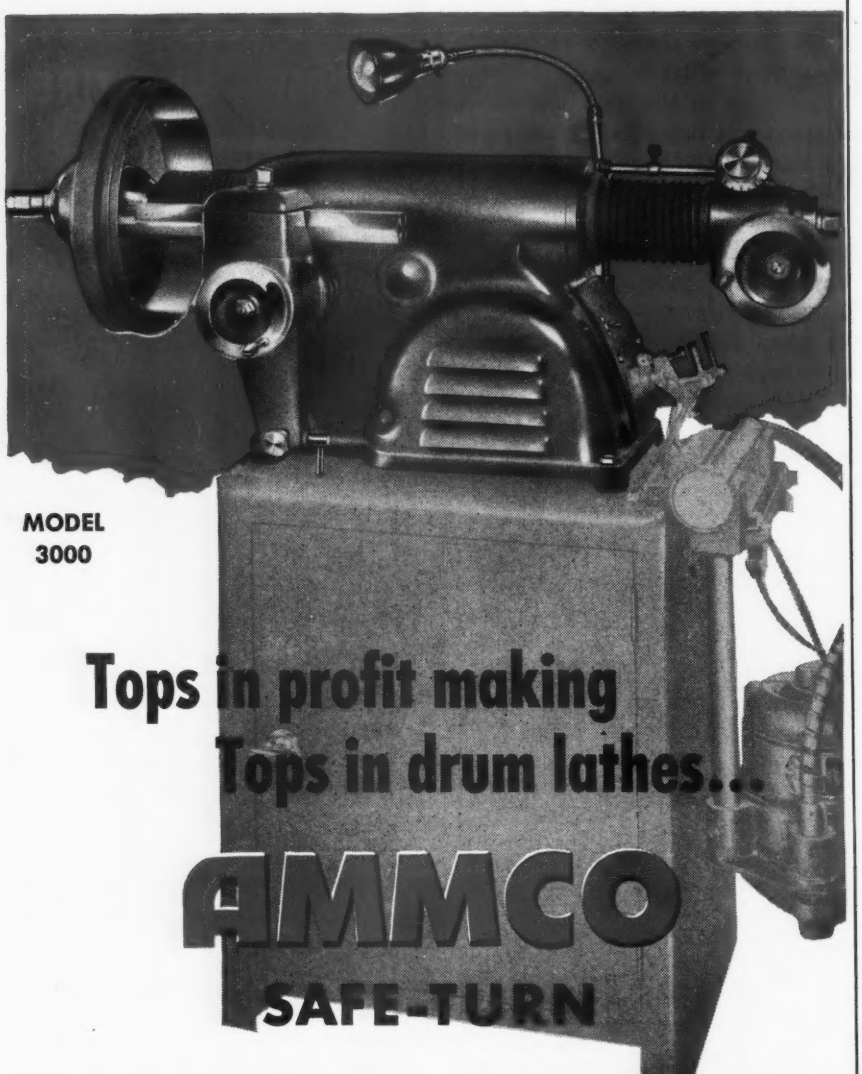
Counter card, window posters, store window exhibits—all carried the message. The used car dealers soon found that a windshield sticker from the safety lane added to the value of the car, with buyers shying away from the stickerless models, and they too sent their bargains through check lanes, advertised them in the paper and on the radio.

Guess who I bumped into today.

As the program entered its fourth and fifth day, Cub Scouts phoned every Dothan number—business firms and housewives alike—adding their pleas to have all vehicles in the city checked. The response was gratifying, even the die-hards had to give in to the naive approach of the Cubs.

By Friday night Dothan had checked 6,994 vehicles. A final goal of 10,000 was set. Saturday—the last day of the check program—dawned with a driving rain. The rain simmered into a drizzle that lasted practically all day.

The drizzle didn't dampen Dothan spirits any. Every school bus in Dothan and Houston County moved through the lanes before the town had breakfasted. At day's end, 3,273 vehicles had been inspected to chalk up a smashing climax—10,267 vehicles checked.



DRUM LATHE

Write for a FREE demonstration in your own shop

AMMCO TOOLS, INC. 2102 Commonwealth Ave. • North Chicago, Ill.

NOW **Nation-Wide Oil Filter Check!** With powerful Purolator magazine ads in Saturday Evening Post, Life, Look, Collier's bringing customers in! With brilliant DAY-GLO Purolator posters and streamers clinching sales for every dealer! Together with streamlined Purolator Wall Chart with popular car specs. and dealer stock check!

NOW... **Purolator's '54 Bonanza** . . . A special package of 31 fastest moving Purolator oil filters plus a 16-piece set of Ranchware. All at a give-away price. Big profits—and a "take home" for family! **Hurry! Hurry!** '54 Bonanza stocks limited! Get after suppliers at once!

NOW... **Dealers can sell a** Purolator Oil Filter and an oil change. Sell a Purolator to every customer who comes in for Spring Oil Change . . . Sell an oil change to every one of your customers who says, "Purolator." It works both ways. And both ways, it's extra money *without extra work!*

REMEMBER

Purolator the Nation's No. 1 . . . the World's Finest Oil Filter. The first oil filter . . . First with the Micronic* element . . . First with the Micronic full-flow system. Widely imitated. Never equalled.

Today—Purolator* Filters, found on more makes of cars, are available in units engineered for all makes. *Reg. U. S. Pat. Off.

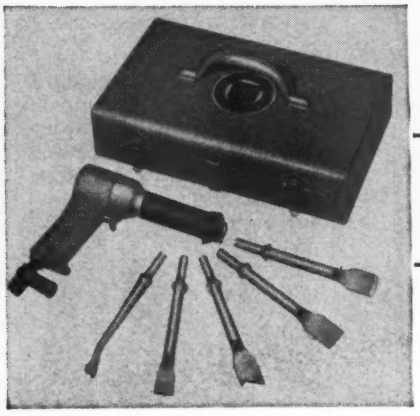
Best by every test—Purolator traps more dirt, finer dirt, faster!

PurOlator

World's finest **OIL FILTER**

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey, and
Toronto, Ontario, Canada

a multi-purpose tool – the CP ZIP-GUN!



ZIP **IT CUTS** Sheet Metal, Spot Welds, Pins, Rivets

ZIP **IT DRIVES** Shackles, Bushings, Kingpins

ZIP **IT SCRAPES** Undercoating, Paint, Dirt

Now it's a cinch! Make cleaner cuts in sheet metal . . . scrape undercoating easier . . . cut bolts, welds and rivets faster than ever before. The CP Zip-Gun also drives light rivets . . . chips paint . . . shears, bumps and punches. Average air consumption is only 4 c.f.m. – the same amount of air you need for a grease gun. Furnished in a compact kit with five accessories, the CP Zip-Gun is a tool of many uses. For more complete information write for Bulletin SP-3107. *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*

Chicago Pneumatic

AIR AND ELECTRIC IMPACT WRENCHES • PNEU-DRAULIC TRUCK JACKS AND PUMPS • ZIP-GUNS, FENDER IRONS AND BEAD BREAKERS

YOU AND A McCASKEY CASH REGISTER SYSTEM

Will Really Control Your Transactions in Cars, Parts and Repairs

Practical Registering Capacity

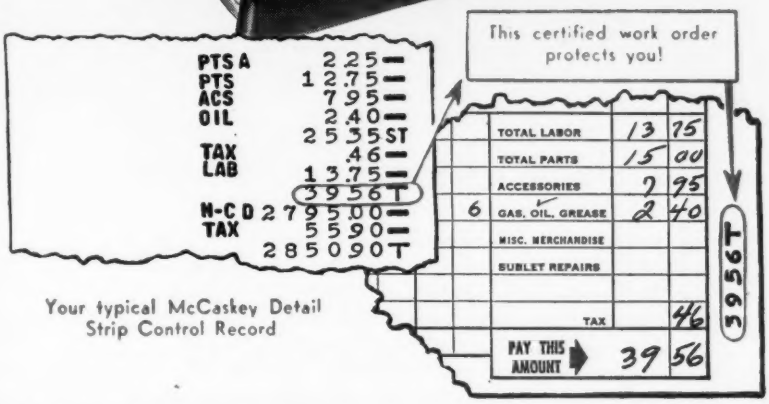
You can register car sales to within 1¢ of $10,000 in one McCaskey register ring-up . . .

Certified Records

You can have certified sales slip, work order and paid-out records of daily transactions—identical with your register printed detail strip records and positive proof of correct amounts received, paid and recorded.

Item-Added for Accuracy

You can have an item-added breakdown of transactions including more than one item—listed and totalled individual amounts for parts, time and other items sold, from sales slips and work orders.



Your typical McCaskey Detail Strip Control Record

YOU OBTAIN IN THE McCASKEY CASH REGISTER SYSTEM A SIMPLIFIED METHOD THAT HAS ACTUALLY "GROWN UP" WITH GARAGE AND AUTOMOTIVE EXPERIENCE DURING THE LAST 50 YEARS!

McCaskey Cash Register Systems • Charge Account Control Systems • Sales Books and Continuous Forms • Fire Protection for Vital Records • ALL offer you the benefits of simplicity, completeness of usable records and protection against losses.

McCaskey Register Company, Alliance, Ohio

SEND INFORMATION ON THE PRODUCTS CHECKED:

( ) McCaskey Gasoline Shortage Control Cash Register System
( ) McCaskey Charge Account Control System
( ) McCaskey Steel Safe
( ) McCaskey Portograph and Sales Books

NAME ..... ADDRESS .....

CITY ..... STATE .....

McCASKEY REGISTER DIVISION, Victor Adding Machine Co., ALLIANCE, OHIO

In Canada, Galt; in England, Watford

provide longer life, smooth performance, safer stops

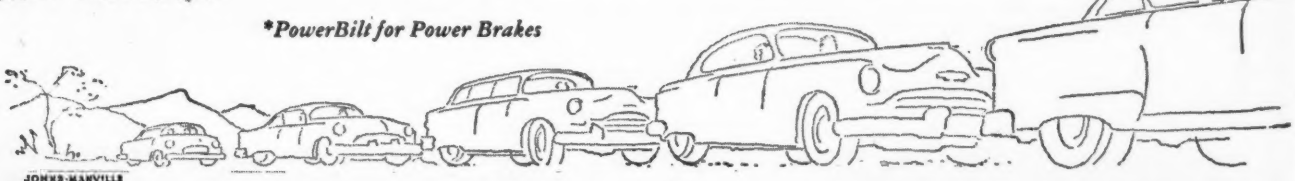
● Engineered especially for passenger car power brake systems, Johns-Manville P B sets now make it possible for car owners to enjoy *all* the many benefits of power braking.

These heavy duty linings offer greater resistance to wear, smooth performance and *more* dependable stops. They provide maximum durability and stable friction under severe operating conditions. Because they wear slowly and evenly, break-in adjustments are seldom needed on P B reline jobs.

In manufacturing Johns-Manville P B Brake Lining, a composition of select grades of asbestos fibre and non-scoring brass particles is precision molded under high compression. The result is a hard, dense brake lining which has no equal for use with power brakes. They are not sensitive to temperature changes or moisture conditions.

Your local Johns-Manville Distributor carries P B sets. Ask him about this important development which brings you premium quality at competitive prices, or write Johns-Manville, Box 60, New York 16, New York.

**PowerBilt for Power Brakes*



JOHNS-MANVILLE JM PRODUCTS

Johns-Manville *asbestos* BRAKE LININGS

Open Up The Way to *Faster* Enamel Spotting!

Recommended by Leading Manufacturers of Cars Finished in Baked Enamel

Here is the proven answer to your *matching* and *time* problems on those enamel spot and touch-up jobs! You want *speed*, but you want *enamel durability*, too. Acme Pro-Flex gives you both, plus good matches – right out of the factory packages.

HERE'S THE REASON: Acme Pro-Flex is a combination lacquer and synthetic finish. That means it has the same weathering characteristics as baked enamel with the drying features of lacquer. Leading manufacturers of enamel-finished cars recommend Pro-Flex for faster enamel spotting.

It's lacquer-easy to work with, but you get a high gloss with very little rubbing or polishing.

Remember—when you're on the spot for speed, spot-in enamel with Pro-Flex. *Call in your Acme jobber right now.*

The Combination Paint that Matches—Fast!

Just one of thousands of painters who have found the answer to *quick* enamel-quality spotting is Ralph Guillen, of B & H Motors, San Francisco De Soto-Plymouth dealer. He says: "The Acme Pro-Flex Way is the *one* quicker, easier way to spot-in enamel."

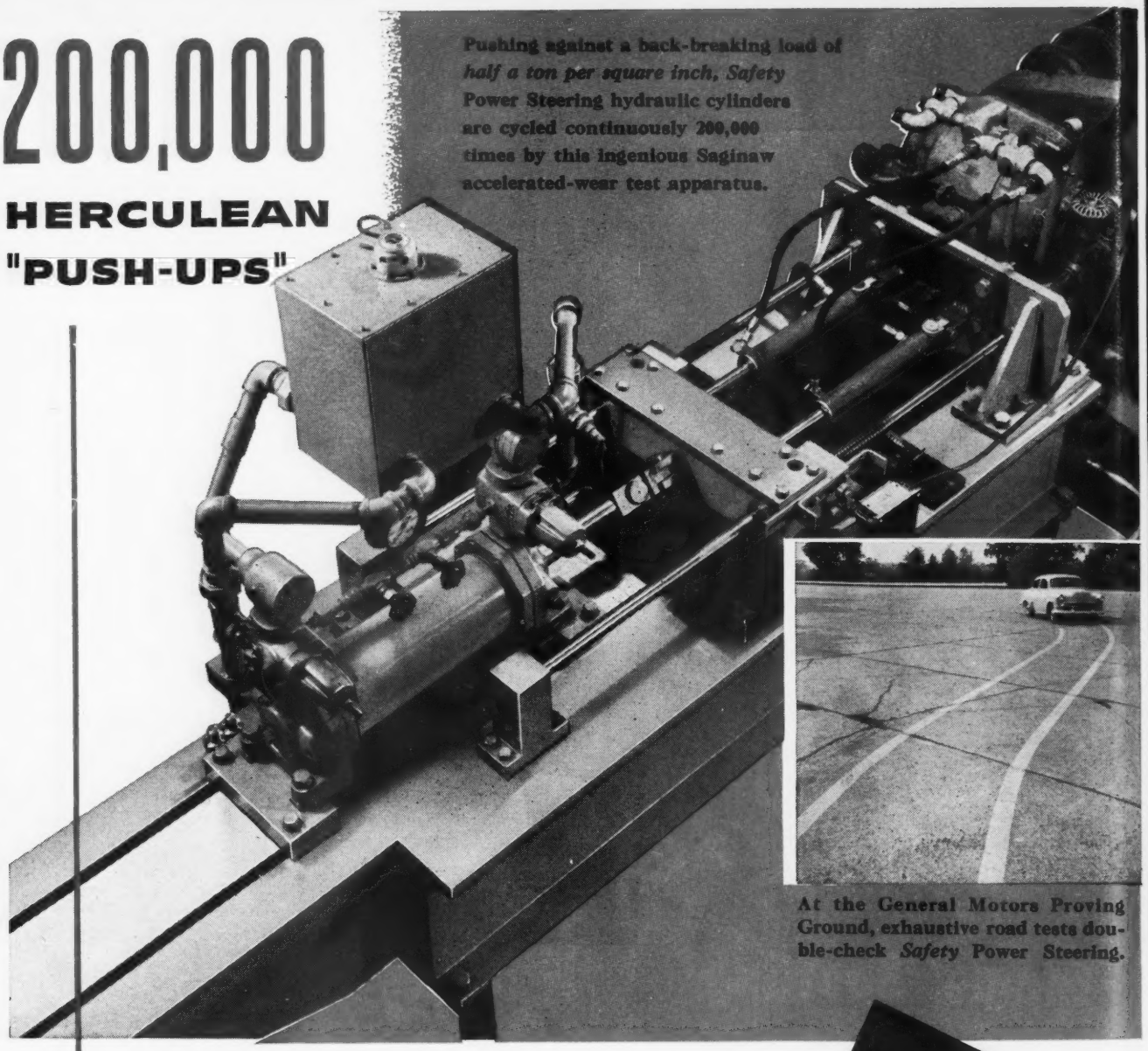
ACME

The ACME WAY Makes PAINTING PAY

AUTOMOTIVE FINISHES

ACME QUALITY PAINTS, INC., DETROIT 11, MICHIGAN

200,000 HERCULEAN "PUSH-UPS"



Pushing against a back-breaking load of *half a ton per square inch, Safety* Power Steering hydraulic cylinders are cycled continuously 200,000 times by this ingenious Saginaw accelerated-wear test apparatus.

At the General Motors Proving Ground, exhaustive road tests double-check *Safety* Power Steering.

Prove the Staying-Power of *Safety* Power Steering!

It's the hydraulic power cylinder that does the actual work of turning the wheels—and absorbs dangerous road shocks—in the *Safety* Power Steering mechanism. So to make sure it's got stamina to spare, we give it the laboratory test you see above—far tougher than any it would ever face in any automobile anywhere.

However, such indoor workouts—no matter how strenuous—don't always show up all the "bugs." So we give *Safety* power cylinders another beating in actual car service at the General Motors Proving Ground—the stiffest "final exams" our engineers can dream up.

That's why you can *bet your life* that *Safety* Power Steering by Saginaw is as dependable as the finest design and production "know-how" can possibly make it. We build more Power Steering gears than all other makers put together.

Safety POWER STEERING by Saginaw is featured at substantially reduced cost on new 1954 models of

CHEVROLET • PONTIAC
OLDSMOBILE • BUICK
CADILLAC • GMC TRUCKS

and three other well-known makes of passenger cars.

Safety POWER STEERING by Saginaw

SAGINAW STEERING GEAR DIVISION, GENERAL MOTORS CORPORATION, SAGINAW, MICHIGAN

now! carburetor and small parts cleaning simplified!

LOAD IT! FORGET IT!

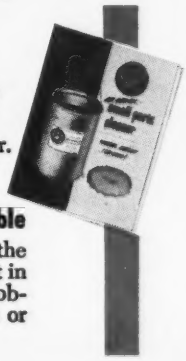
It's SOLVENTS plus TURBULENCE at low cost!

- **No unpleasant odor!**
- **No hand dipping!**
- **No hand scrubbing!**

Here's the *new* way... the *better* way to handle carburetor and small parts cleaning. JETISOIL, a *new*, miracle working compound by TURCO, combines with the *new* TURCO JET ACTION cleaner to do these troublesome jobs *automatically*. The whole operation is simple, positive and effective. No more hand scrubbing or dipping... no more unpleasant odors. You'll cut costs... you'll step up quality... *automatically*... and all at a low, low price you can afford to pay!

Write for FREE BOOKLET!

Get the *complete* story... get the *full* story on miracle working Jetisoil and Turco's *new* Jet Action cleaner. Write for your *free* copy today!



Valuable Jobber Franchises Available

Here's your opportunity to tie in with the fastest selling equipment development in the automotive field. A few choice jobbers territories available. Write, wire or phone for details.

TURCO PRODUCTS INC.

Chemical Processing Compounds

6135 SO. CENTRAL AVE., LOS ANGELES 1, CALIFORNIA

FACTORIES: Newark, Chicago, Houston, Los Angeles

3 QUICK WAYS TO SPOT A DRIVER WHO NEEDS G-E "ALL-GLASS" HEADLAMPS

1 LOOK FOR signs of condensation inside the lens. These drops of water deflect light and ruin the intended beam pattern.

2 LOOK FOR blackened inner bulb. Tungsten deposits from the filaments have coated its surface... absorb light before it can reach the reflector.

3 LOOK FOR deteriorated reflectors. A sure sign that dirt, moisture are getting inside the lamp and absorbing light.

Check every car left for service. Look for these 3 signs that headlamps are growing dangerously dim ... then sell General Electric headlamps!

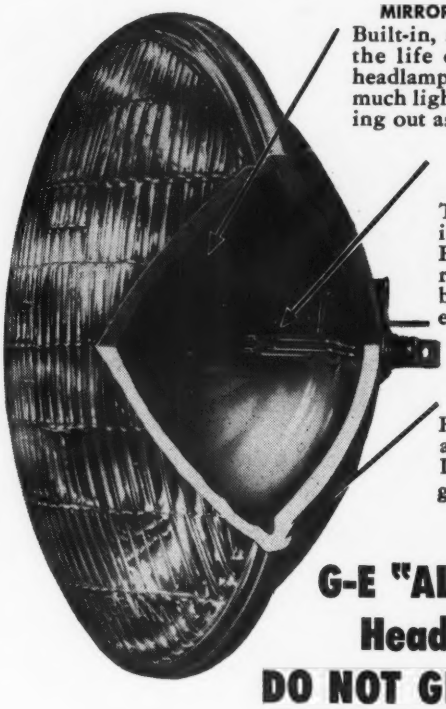
THE few seconds it takes to inspect headlamps for the deficiences shown above will pay off big in extra sales and profits for you.

A recent survey of more than 3,500 cars shows that one of every six has at least one lamp that isn't giving peak performance.

That's your opportunity to talk about General Electric headlamps. You can promise your customer he'll never be bothered by condensation, bulb blackening or deteriorated reflectors in his headlamps again. General Electric headlamps eliminate all 3 of these causes of headlamp failure.

They're ALL-GLASS, all one big bulb. Dirt and moisture *can't* get inside. And there's no inner bulb to blacken and cut light output. Tests show General Electric headlamps give 99% as much light after years of service as when new.

Check headlamps. Follow with the General Electric story. It's an easy way to pick up profits.



MIRROR-LIKE REFLECTOR
Built-in, stays efficient for the life of the lamp. G-E headlamps average 99% as much light just before burning out as when new!

NO INNER BULB TO BLACKEN
The G-E headlamp is one big bulb. Rugged filaments replace small inner bulb so that blackening is no problem.

ALL ONE PIECE
Reflector and lens are fused together. Dirt, moisture can't get in to steal light.

G-E "ALL-GLASS" Headlamps DO NOT GROW DIM!

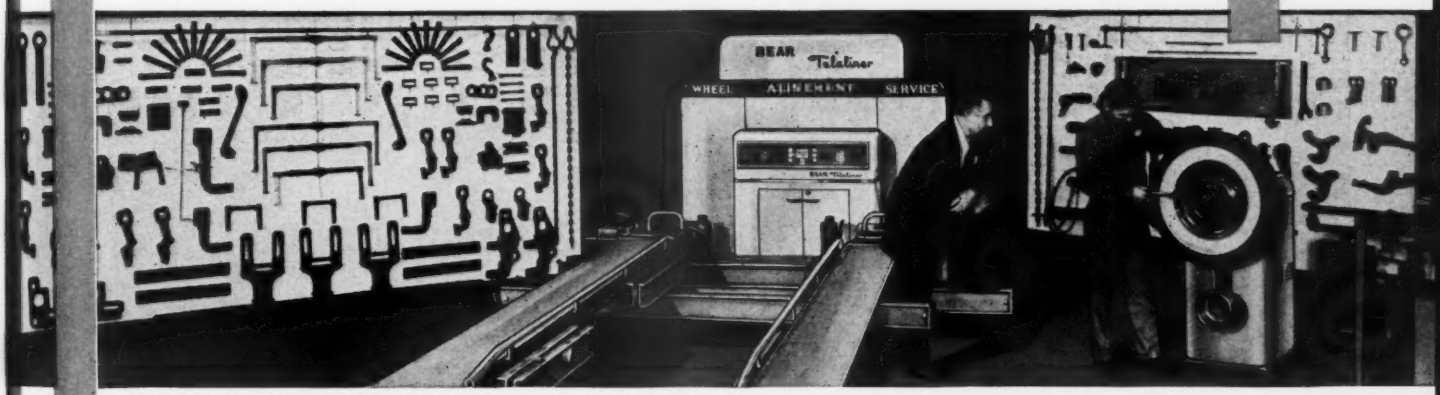
GENERAL ELECTRIC

true experiences of two "BEAR" Shops prove that the...

Telaliner®

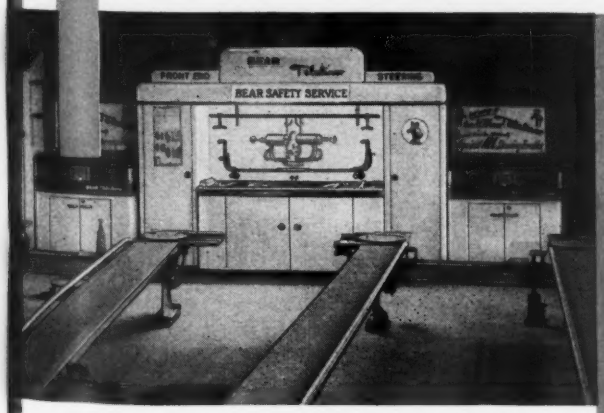
is WHEEL ALINEMENT at its FINEST!

- **FINEST** in Clarity . . .
- **FINEST** in Versatility . . .
- **FINEST** in Profit-thru-Showmanship . . .
- **FINEST** in Profit-from-Appearance . . .
- **FINEST** in Profit-making Convenience . . .



TELALINER ADDS TO NET ALINEMENT PROFITS!

Forman & Robinson, Philadelphia, Pa., feature this complete "Bear" Service, including (left to right) Super Frame and Alinement Service, Telaliner, Front-End Correction Service and "36" Wheel Balancer. Of their Telaliner, they say: "We have found that the 'BEAR' Telaliner has much customer appeal, helps to simplify explanations to the car owner, and is a most excellent merchandiser. It has also added to our net profit in saving time required in alinement adjustments."



ONE TELALINER BROUGHT IN ENOUGH BUSINESS FOR TWO!

Forrest's Frame and Axle Service, Boulder, Colo., now has two Telaliners; the reason: "In July 1952 I saw a demonstration of the Telaliner and decided to buy one as it seemed a great time saver and I thought it would pay for itself in additional number of jobs we could turn out. It not only lived up to my expectations as a time saver, but to my surprise, proved to be such a fine merchandiser that I decided I would have to have a second one. The new Telaliner was installed in July, 1953."

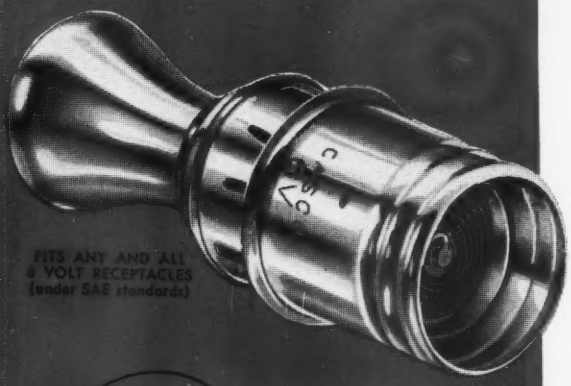
RESULTS SPEAK LOUDER THAN WORDS!

These two experiences show what Telaliner can do for YOUR BUSINESS, too. Telaliner is truly the finest step forward your business can take right now . . . it represents the crowning climax to a complete "Bear" Service. Telaliner enhances the Profit-Power of all "Bear" Services . . . Alinement, Balancing, Balantruing, Frame Straightening . . . it is the finishing touch to make all these services easier to sell and bring in more-profits-per-job by speeding up alinement work. Telaliner is available in combination with all "Bear" Services. See your "Bear" Jobber for complete Telaliner Facts and Figures, including his convenient "pay-as-you-earn" plan. If you prefer, write us for complete catalog of "Bear" Equipment. Bear Mfg. Co., Dept. M-1, Rock Island, Ill.

BEAR SAFETY SERVICE

"BEAR"

COMPLETE SAFETY SERVICE



FITS ANY AND ALL 6 VOLT RECEPTACLES (under SAE standards)

Featuring the Patented AUTOMATIC SLEEVE!

It telescopes out to guard against falling ashes and sparks

List $1.95

THE NEW CASCO *Ash-Guard* AUTOMATIC LIGHTER

Casco, always the world's finest quality lighter, is now the world's safest lighter too. You just push it in; click, and it's ready in a fraction of the time other lighters take. The ingenious telescoping sleeve automatically extends when you remove the lighter from the dashboard receptacle catching sparks and ashes that may frequently fall when you are lighting up.

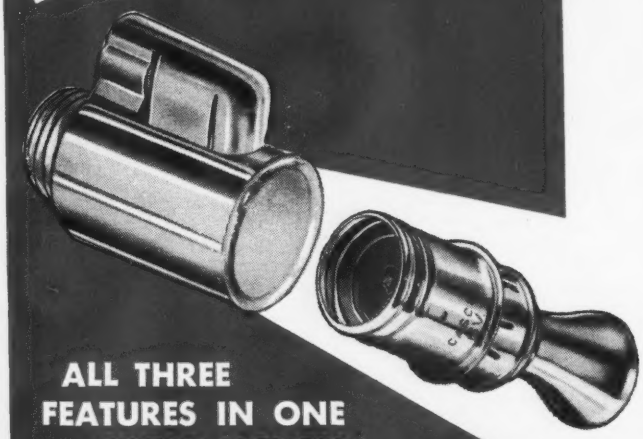
It's truly the lighter to make big replacement sales for you!

ORDER COLORFUL

SELF-SELLING DISPLAY

CARD NO. L42D . . . with 6 Pop-Out Units

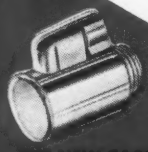
2 INGENIOUS NEW CASCO LIGHTERS TO EXCITE YOUR BIGGEST SALES IN YEARS!



ALL THREE FEATURES IN ONE GREAT LIGHTER!

THE NEW CASCO *Ash-Guard* Pop-Out Unit

THE NEW CASCO SAFE-GLO RING that lights at night to tell you where to find the lighter on the dashboard!



THE NEW CASCO SAFE-GLO RECEPTACLE that lights at night to guide the lighter back to the dashboard!

List complete $3.49

THE NEW DELUXE CASCO *Illuminated* SAFE-GLO ASH GUARD LIGHTER

Here's the ultimate in car lighter convenience and safety. The ingenious Ash-Guard lighter keeps hot ashes and sparks off your lap protecting clothing; and the special illuminated features help keep the driver's eyes on the road, and prevent marred and scratched dashboards as well.

ORDER THIS

HIGH-POWER COUNTER MERCHANDISER

NO. L40D . . . with 6 Complete Safe-Glo Lighters

CASCO PRODUCTS CORP., BRIDGEPORT, CONN.

FOR THE NEW AND UNUSUAL IN AUTOMOTIVE ACCESSORIES

3M Super Weatherstrip Adhesive Stronger Than The Rubber It Holds!

Three basic kinds of weatherstripping used on all auto production lines. Arrows indicate binding surfaces. 3M Super Weatherstrip Adhesive holds all types equally well.

The startling test above demonstrates how the new 3M Super Weatherstrip Adhesive holds weatherstripping so tight that the rubber will tear when pulled . . . the bond to the metal won't loosen!

The tremendous strength of the new adhesive is most important today because of the new types and shapes of weatherstripping specified for new car models. New trunk and door designs put added stress and pressure on the weatherstripping and hence on the adhesive. 3M Super Weatherstrip Adhesive gives you a super strong, positive bond of rubber to metal . . . whether it has one bonding surface or two. In both types note how the rubber tears while the bond holds.

New 3M Super Weatherstrip Adhesive is a thin bodied, easy to use adhesive. It's quick drying and because of its light color, requires very little clean-up. Used and proven on the production lines, this new adhesive is now available to you through your regular 3M Distributor. Be sure you ask for 3M *Super* Weatherstrip Adhesive in the new "Scotch" Plaid package.

Remember . . . New 3M Super Weatherstrip Adhesive is stronger than the Rubber it holds!

SHOP TIP
of the month

How to solve the rainy day water leak jam-up problem!

Rainstorms usually bring a FLOOD of customers who want a water leak fixed—*right away!* The shop gets jammed and some customers get "hurry-up" jobs. Then you have call-backs—and that's bad!

You can spread those rainy day jobs over the sunny days IF you bone up on how to find water and dust leaks. Your 3M salesman has a manual on how to find 'em. It takes a little explaining and demonstrating which he will be most happy to do. Send us a card and we'll have him drop in. Write Advertising Dept. M4, 3M Company, St. Paul 6, Minn.

You'll save time and effort if you always use the *right* adhesive for the job. That's why it's smart to use the adhesives used on auto production lines—3M Specialized Adhesives:

WEATHER STRIPPING—for attaching and sealing use 3M Super and 3M Regular Weatherstripping Adhesives.

WINDSHIELDS—for taking care of those pesky leaks around the glass, 3M Clear Autoglass Sealer stops 'em quick. Colorless, so practically no clean-up needed.

SEALING MOULDINGS and embedding glass—always use 3M Autobody Sealer.

UPHOLSTERY and trim repairs. 3M Trim Cement is especially made for the job.

HOLES AND SEAMS—use a calk that stays put, never turns brittle. That's "Scotch" Calk and 3M Body Calking.

SOUND DEADENING—3M Autobody Deadener is the product to use.

METAL FILLING—use 3M Metal Filler, is easy to use, sets hard as the metal.

THE RIGHT START FOR A PERFECT FINISH

"3M" ADHESIVES are used on top automotive production lines. Stock and use these specialized adhesives for sealing and holding repairs.

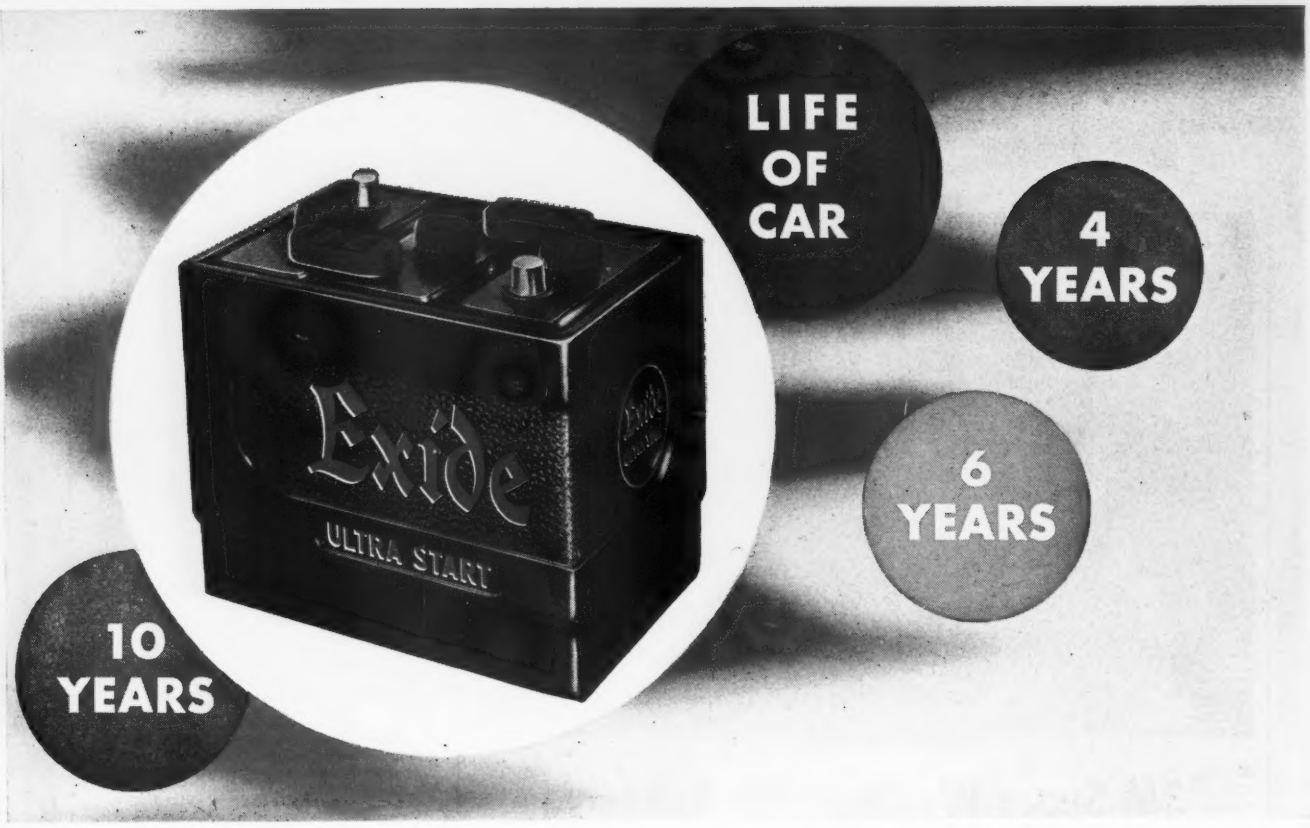
"SCOTCH" MASKING PRODUCTS work together to give you perfect, trouble-free masking every time.

"3M" ABRASIVES stay sharp longer, sand easier — completely outperform all others. Made for hand or machine, wet or dry sanding.

"3M" SANDING TOOLS save time, save work, increase efficiency. Order and use the "3M" Back-Up Pad Assembly, "3M" Disc Feather-Edger and the "3M" Cone Mandrel.

3M COMPANY

Made in U.S.A. by Minnesota Mining and Manufacturing Company, St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ont., Can.



"This battery will outlast . . ."

You've been battered by battery claims. Now let's look at facts. Three years ago, when we introduced the Exide ULTRA START, the laboratory life tests were so amazing, we hesitated to predict how many years this new, revolutionary battery would last. But here's what has happened:

THOUSANDS SOLD . . . NONE HAVE WORN OUT!

In three years, with hundreds of thousands sold through service stations, repair shops and car dealers, not a single Exide ULTRA START has worn out, to our knowledge, in normal car use!

120,000 MILES IN RUGGED FLEET SERVICE!

In taxis and other severe fleet service, Exide ULTRA START Batteries have been on the go for 90,000 . . . 100,000 . . . 120,000 miles.

170,875 MILES IN POLICE CARS!

One Exide ULTRA START gave uninterrupted service for over 170,000 miles in three successive police cars without even a recharge. Each car was equipped with 2-way radio, siren, flashing signal lights and high output generator.

In the laboratory, the Exide ULTRA START exceeds brutal overcharge test standards of the SAE by more than three times. And you know that overcharge is a constant threat to batteries . . . the biggest cause of battery failure.

These facts are your assurance that Exide ULTRA START Batteries will serve your customers well. And there's extra assurance for you in the fact that the Exide Guarantee is backed by 66 years of business integrity.

No matter what batteries you handle you should sell Exide ULTRA START

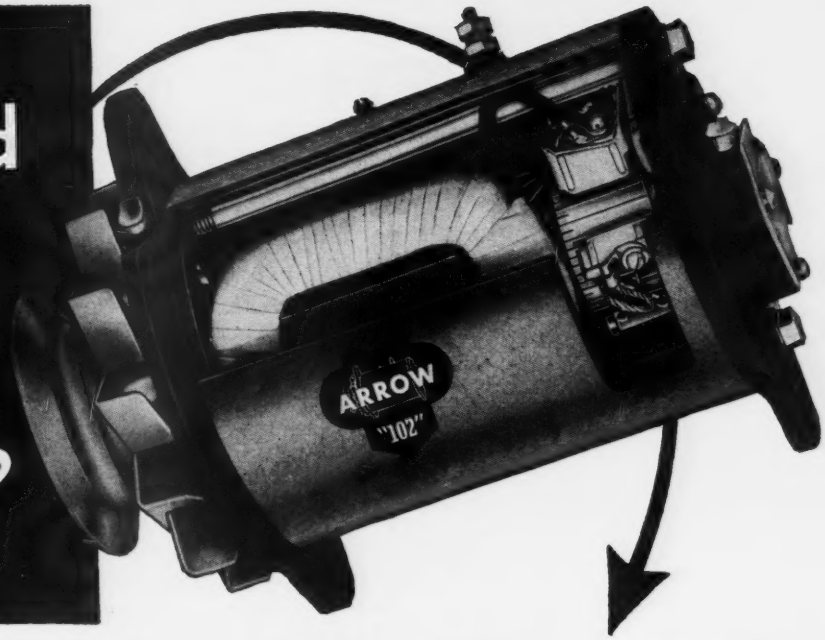
Powerful Exide national advertising is bringing the outstanding performance record of Exide ULTRA START Batteries to millions of motorists. Many of your customers will want them. You can sell greater starting power and proven longer life per dollar with Exide ULTRA START. And, every ULTRA START sale is a high-profit sale. Get full details from your Exide Distributor. He's listed in the classified phone directory. If you prefer, contact us direct.

Exide AUTOMOTIVE DIVISION
THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 2, Pa.

Exide Batteries of Canada, Limited, Toronto
"Exide" and "Ultra Start" Reg. T. M. U. S. Pat. Off.

Exide BATTERIES

How good is a Rebuilt Generator?



DON'T GUESS...BE SURE...CHECK THESE 5 POINTS

1. The Rebuilder as a Company

Reputation, financial responsibility, methods of handling credits and cores.

Arrow's reputation has been established for more than 20 years.

2. Quality of the Line

Guarantees and other evidence of performance.

Arrow's exclusive "102" Test of operating life protects you from losses due to come-backs. Arrow's one-year unconditional guarantee on every generator insures your profits.

3. Merchandising Policy

Advertising, promotions and sales helps for Jobbers and Service Shops.

Arrow's national advertising, direct mail and regional promotions help Jobbers make new customers and build sales volume . . . Arrow supports Service Shops with displays, sales helps, technical booklets and envelope enclosures.

4. Pricing Policy

Fair prices and adequate discounts.

Arrow's competitive prices include better than normal discounts for Jobbers and Service Shops . . . you buy for less, you sell for less, you make more dollars on every sale.

5. The Rebuilder's Plants

At Arrow's two plants . . . Boston, Mass. and Spartanburg, S. C. . . . trained workers produce on specialized tools and equipment under a rigid system of quality control. Both plants maintain complete stocks (including late models) for immediate delivery . . . both provide "extra rush service" for special Generator and Starter rebuilding for Trucks, Buses and other heavy equipment.

ARROW "102"

DON'T GUESS...GET FULL DETAILS

. . . Use The Coupon Below

ARROW ARMATURES COMPANY (Mail Inquiry Dept.)
15 FORDHAM RD., BOSTON 34, MASS.

Of course I'd like to triple my generator sales. Send me my FREE copy of "A New Approach to Volume Sales."

NAME.....

COMPANY.....

ADDRESS.....

ARROW ARMATURES COMPANY **Boston 34, Mass. • Spartanburg, S. C.**

it pays to travel with

MERCURY

AMERICA'S FASTEST GROWING CAR

How to Make an Extra $612 Net for Every 100 Cars You Service

LAUREL C. WORMAN

HERE ARE THE FACTS: When you sell Miracle Power to your service customers every 1000 miles in gas and oil, here's your profit potential per 100 cars—

Annual mileage of 100 cars at 9,000 miles average a car.....900,000 miles

Two cans Miracle Power every 1000 miles.....1800 cans

1800 cans at 85c.....$1530 gross

Your profit per 100 cars.....$612 NET!

by LAUREL C. WORMAN

Kaiser-Willys distributor in eastern and northwestern Ohio and parts of Indiana and Packard dealer in Toledo, Ohio.

Miracle Power can be just as good a profit item for you as it is for us! And believe me, we find it mighty profitable.

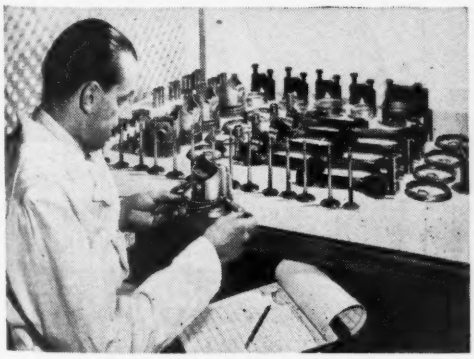
We push Miracle Power because we can *prove* that it improves engine performance. Our service men put Miracle Power in the gas and oil of every new car we deliver because we've found that it reduces breakdown problems and cuts costly "warranty period" comebacks. And our customers return for Miracle Power every 1000 miles because they know it helps keep that new car performance.

I'm not alone in my belief in Miracle Power. It has been approved by the manufacturers of three leading cars for sale through their parts and accessories divisions. And my experience with Miracle Power has been backed up with extensive road testing by an independent research laboratory.* As far as I know, Miracle Power is the only lubrication aid that has done this.

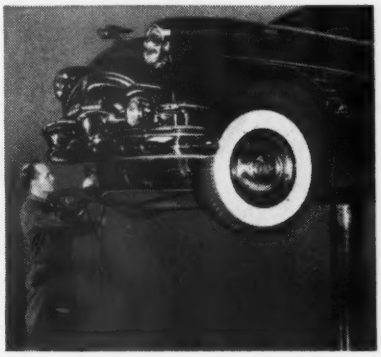
• • •

(Miracle Power, a blend of super lubricating agencies including colloidal synthetic graphite in suspension, treats the engine, not the oil. It covers metal parts with a light, tough graphoid film that retains oil and furnishes standby lubrication to prevent Dry Starting damage. Nationally advertised Miracle Power can be a top profit item for you. Ask your AP jobber for full details and performance data and for the complete story of Miracle Power profit possibilities.)

Miracle Power Division
THE AP PARTS CORPORATION
1531 AP Building • Toledo 1, Ohio
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123
©The AP Parts Corp., 1954



*Wetmore Hodges & Associates, an independent laboratory, proved Miracle Power saved 33% on oil, added 13% more compression, increased spark plug life 56%, reduced cylinder bore wear 49% and reduced ring wear 15%.



Whenever a Packard comes to Worman for lubrication or oil change, his service men automatically suggest Miracle Power for better engine performance and longer life.

Miracle Power is now available in large size containers for use in oil and gas every 1000 miles and in smaller cans for more frequent use as a top cylinder lubricant.

Huot

TOOL CHESTS

Here's maximum tool protection at a minimum cost. Seven of the eleven drawers in the Model 100 as illustrated now have *cork* bottoms to guard precision tools. In no other chest is there so much usable storage—over 12 square feet in this model. Man-size handles . . . built in locks . . . tote tray included . . . streamlined design . . . grease-proof baked enamel finish that's easily cleaned. Size 18¾" x 26" x 12". A complete line of Chests & Porta-Cabs.

Stocked by jobbers everywhere . . . write for illustrated bulletin

Huot 585 N. Wheeler St., St. Paul 4, Minn.

HUOT MANUFACTURING CO.

Huot is pronounced "Hew-ot"

Power Brakes

Continued from Page 49

piston assembly. Remove the floating control valve assembly by hand. Lift off the leather piston cup and take out the reaction rod spring from the power piston. Lift out the reaction rod and stop assembly. Remove the reaction rod piston assembly. Then, using care, slip off "O" ring.

Disassembling the Hydraulic Cylinder

Drain the cylinder and set the housing on the bench with the cylinder end up. Mark the cylinder position in relation to the housing for installation purposes and remove the four hex nuts from the cylinder flange. Lift the cylinder off the housing. Place the cylinder in a vise with the outlet end down.

Use a wrench to remove the cylinder plug assembly. Disassemble the cylinder plug.

The greatest mistake you can make in this life is to be continually fearing you will make one. *Elbert Hubbard*

Then remove the power assembly. Withdraw the bearing carefully, as removal of bearing releases residual valve spring, which will fly away unless controlled. Remove the secondary cup retainers and the secondary cup. Do not remove the blue steel secondary cup supporting the washer, unless damaged. From the hydraulic cylinder, lift off the residual valve spring retainer and the rest of the parts. Pry out the residual valve seat.

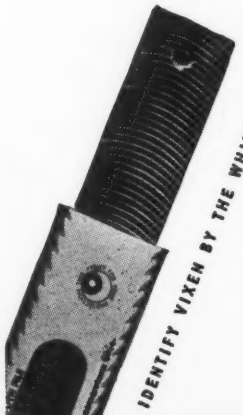
Assemble the units in the reverse order of the disassembling process, paying particular attention to the following: before assembling any part it should be thoroughly cleaned with alcohol or clean brake fluid. Wet all the "O" rings and cups with brake fluid before installing them.

"Where did you meet your wife?"
"At a travel bureau. I was looking for a vacation spot and she was the last resort."

VIXEN
files are tough

Made of special analysis alloy, Vixen's milled curved teeth have the stuff to cut equally deep and fast into auto body steel or welding beads. On softer metals and fibrous materials, large gullets give Vixen a self-clearing action. This prevents both clogging and surface scratches. Vixen cuts freer, faster, smoother. Vixen, the original milled curved tooth file, is still the best.

HELLER BROTHERS CO.
America's Oldest File Manufacturer
NEWCOMERSTOWN, OHIO

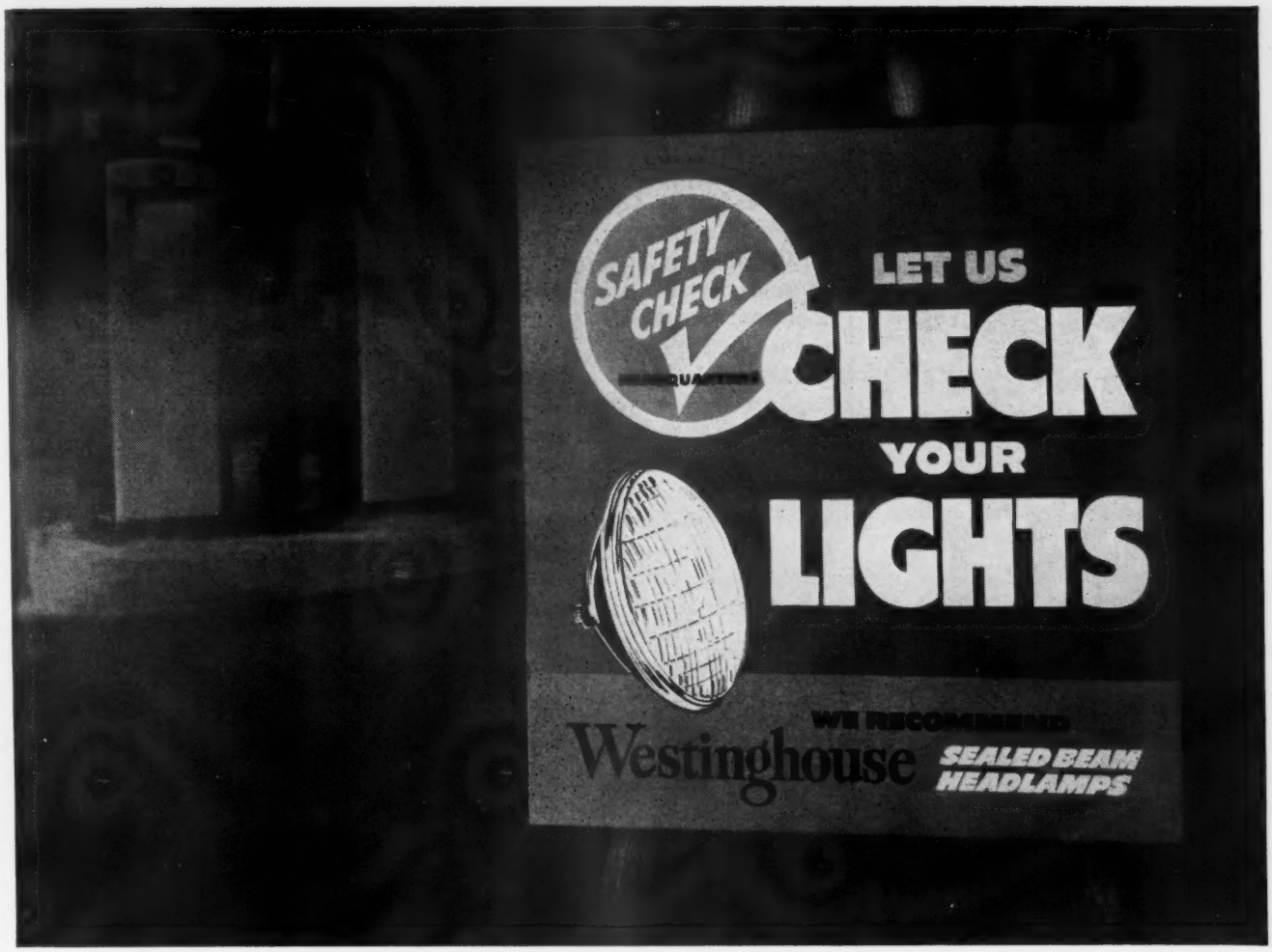


See us at Booth 2121 ASTE SHOW

Your Heller Distributor Can Supply All Your File Needs

ONLY HELLER MAKES THE VIXEN

VIXEN, NUCUT and American-Swiss are made only by HELLER BROTHERS SINCE 1836



This sign boosts T. B. A. profits

This glow-in-the-dark sign tells motorists *you* are Safety Check Headquarters in *your* neighborhood. And that you endeavor to check tires, battery, lights, brakes, and wiper blades on all cars left for service. Motorists come to *you* because they want Safety Check Service. This gives you the ideal opportunity to sell Westinghouse Sealed Beam Headlamps—the high dollar volume bulbs—and other T.B.A. items.

Display Kit makes you . . .

SAFETY CHECK HEADQUARTERS

Kit contains: Weatherproof Scotchlite sign, auto bulb guide chart, Safety Check Certificate...plus order form for: Safety Check Emblems, direct mail campaign, snap on tags, door stickers and newspaper mats.

Betty Furness on "WESTINGHOUSE STUDIO ONE" will tell motorists to look for your Safety Check Emblem.

SAFETY CHECK SELLS WESTINGHOUSE AUTO BULBS AND OTHER T.B.A. ITEMS

Large plastic Protective Seat Cover is available from your Westinghouse Auto Bulb Supplier. See him for details or write: Westinghouse Lamp Division, Bloomfield, N. J.

YOU CAN BE SURE...IF IT'S

Westinghouse

Make hard jobs EASY
with QUALITY-FORGED
JOB-DESIGNED
KEN-TOOLS
★ UNIVERSAL WHEEL PULLERS
★ CAR AND TRUCK STANDS

T-500
Wheel Puller, forged from chrome-nickel alloy. Serves 98% of all cars and light trucks. Tougher, lasts much longer.

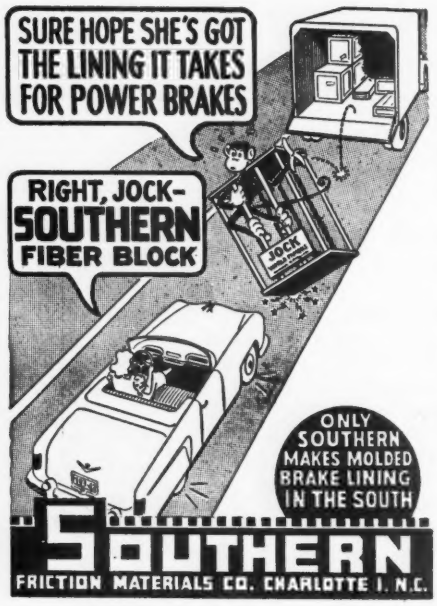
T-500 A
Wheel Puller Adaptor converts any stud-type puller for Ford service.

T-124
2-Ton Car and Truck Stand with quick-adjusting ratchet. Can't release by accident. Forged, non-tip base.

T-125
7-Ton Car and Truck Stand. All features of 2-ton model.

SEE YOUR JOBBER on the complete line of *Job-Designed* Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.

JOB-DESIGNED
KEN-TOOLS
TIRE-CHANGING TOOLS KNOWN, USED AROUND THE WORLD



BUY BONDS

Sell Safety . . .

(Continued from Page 45)

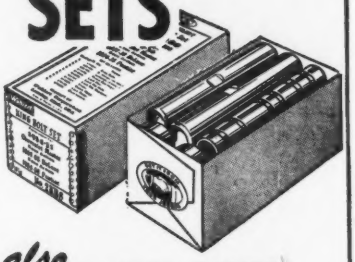
considering the time and effort that they put into it. But the good will derived from the extra service easily offsets the time involved. Most important, of course, is the fact that on the lift they have a chance to look over the car thoroughly for leaking wheel cylinders, faulty shock absorbers, leaking exhaust systems, unsafe tires, worn suspension parts and other things which can cause trouble. Checking these points of safety is doing the customer a valuable service and providing the shop an opportunity to sell extra parts and services.

Butner Brothers have a Pennsylvania State Inspection station, which makes it possible for them to make periodic checks on most of their customers' cars. They will have done over 1100 State Inspections by the end of their first year of operation, a factor which has helped them to build up their safety service record so quickly. But while the State Inspection is provided, they make it a point to sell safety all year 'round. But they do not depend upon local trade for all of their business. Transients make good customers, Howard Butner states, and they have had a number of big jobs come in "off the road." One recent example is the case of a man who drove into the shop, explaining that he had won a ticket for a free front wheel alignment at his local repair shop. But after having gone over there he decided he'd rather take the car somewhere else and pay for it. He happened to stop in at Butner's for gas and noticed their clean, modern alignment department. Since the rack was unoccupied, he decided it would pay to have the front wheels checked while he was there. Before he left, he had spent $109 in tires, parts and service.

Another case is of an out-of-town couple who had been involved in a minor accident where the front wheels were knocked out of alignment to the point where the car could not be driven. The unfortunate couple expected an overnight

(*Continued on page* 160)

KING BOLT SETS



also WATER PUMPS
TIE ROD ENDS
OIL PUMPS

WOHLERT PARTS have been installed universally for over 30 years by Independent Repairmen, Fleet Owners and Car Dealers. They have been COMPARED & COPIED.

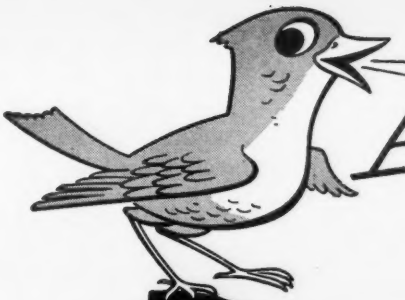
Wohlert Corporation
LANSING 5 MICHIGAN

THE ODDS ARE 4 to 5

. . . says
Robbie Robinson
Richmond

SEE PAGES 104-105

It Pays To
Buy The Best



Announcing NEW

Du Pont Brake Fluids

to meet every service need SAFELY!

THEY MEET...OR EXCEED RIGID S.A.E. SPECIFICATIONS

You can be sure of giving your customers full protection with Du Pont No. 7 Brake Fluids. They *meet or exceed* S.A.E. Brake Fluid Specifications 70R1 and 70R2.

And they give *you* maximum economy consistent with safety, because they're engineered for the job—one for MODERATE DUTY, one for HEAVY DUTY.

With Du Pont Brake Fluids in these two performance ranges, you can service every kind of vehicle—from light passenger cars to heavy trucks and buses.

It's a good way to safeguard your customers . . . and your own good name. Remember to specify genuine Du Pont Brake Fluids next time you order!

- Du Pont Brake Fluids do not boil off when heat is generated in high-speed stops.
- Do not form a vapor lock when heat from drum is carried to wheel cylinder.
- Will not solidify at temperatures far below zero.
- Will not swell rubber cups and hose, nor corrode metals in brake system.
- Will not lose efficiency after several months' storage.
- Will mix with all approved fluids used in new car production.
- Available in the following sizes: 12 Oz., 1 Qt., 1 Gal., 5 Gal., 30 Gal., and 54 Gal.

DU PONT № 7® PRODUCTS

From Chemical Research . . . For Better Car Care

DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY.

For your convenience
the OFFICIAL
RENAULT
FACTORY PARTS DEPOT
Has been relocated at
32-65 60th Street,
Woodside 77, L. I., N. Y.
Tel.: AStoria 8-4500

RENAULT OF FRANCE

Genuine Renault factory parts can be obtained only from this depot or an authorized Renault dealer.

- Guaranteed 24-hour service
- Liberal discount to garages and service stations

Parts price list, shop manual and technical data available. Mail coupon below today:

RENAULT FACTORY PARTS DEPOT, Dept. M
32-65 60th Street, Woodside 77, L. I., N. Y.
Gentlemen: Please send me information on official Renault price list, shop manual, and technical data.
Name.....
Address.....
City.....Zone.....State.....

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER manufactures and sells more HYDRAULIC JACKS than any other company in the world today.

See your Hein-Werner jobber

HEIN-WERNER CORPORATION
Waukesha, Wis.

THE ODDS ARE 4 to 5

. . . says
Dave Yost
Philadelphia

SEE PAGES 104-105

Sell Safety . . .

(Continued from Page 158)

stay in a strange city and a stiff bill before they would be on their way again. Butner Brothers had the car straightened out sufficiently for them to drive to their destination safely within the matter of a few hours, and the repair charges were moderate. Developing the habits of fair dealing, with transients as well as local trade, helps in developing a good name.

Success in its safety service shop depends upon quality of equipment, as well as customer relations and salesmanship. "We make it a point to buy nothing but the best," says George Butner, "and it has more than paid for itself in quality workmanship, savings in time and in better merchandising. Today's customers know enough about cars and equipment to recognize an up to date shop. We are glad to have customers watch us work, and one of the best ways to instill customer confidence is to work with up to date equipment. Using only top quality, name brand parts, such as brake lining, mufflers, etc., also is a "must" for our shop. We like to have them ask questions and 'poke around the car.' In fact, that is one thing that helps to sell more parts and service. Sometimes the car owner may discover a hole on the muffler or a bulge in the tire which we may have overlooked, and it's certainly easiest to sell a man while the thought is fresh in his mind."

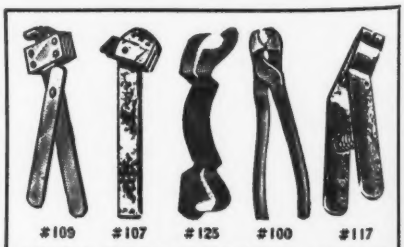
Besides the three Butner brothers, there are two other full time assistants and three part time employees. They do a good gas and oil business, much of which is a result of the long list of regular customers they have built up through other customers. The pumps help keep the shop busy, and vice-versa.

Butner Brothers' shop is a good example of how a small operation can build its success around safety services, which is undoubtedly the most important factor in automotive maintenance.

Today's automobiles require up to seven miles of wire for their electrical systems, with more than 8,300 parts forming as many as 180 different electrical assemblies.

Classified Advertisement

BUSINESS FOR SALE—GENERATOR REBUILDING, ARMATURE REWINDING, AND AUTOMOTIVE JOBBING OF NATIONALLY ADVERTISED LINES OF AUTOMOTIVE PARTS. BOX 25, MOTOR AGE, 5601 CHESTNUT STREET, PHILADELPHIA 39, PA.



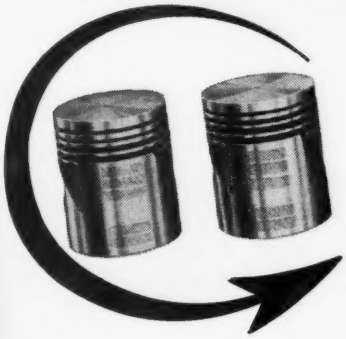
#109 Drip Rail Reforming Tool $3.25; #107 Panel Cutter $4.75; #125 Lock Clip Remover Door-Window Handles $1.00; #100 Plier Type GM Handle Remover $1.00; #117 GM Door Trim Nail Puller $2.25.

DOUGLASS TOOL COMPANY
5251 Pattison Avenue — St. Louis 10, Missouri

A $69 INVESTMENT* SETS UP YOUR OWN PISTON "NURLSIZING" DEPT.

Your own mechanics can do the work with these KRW Wittman Tools!

WHICH OF THESE PISTONS WAS NURLSIZED BY A REGULAR MECHANIC?



The one on the right! The other one was done by an expert on a high-priced special machine, but you can't tell the difference. With the KRW tools shown on this page your own mechanics can nurlsize pistons right in your own shop. No more sending them out; no more paying up to $1.00 per piston to have it done. Nurlsizing increases piston diameter to compensate for wear and actually makes the piston skirt 20% stronger. Send for free KRW booklet today which shows you how your own mechanics can nurlsize pistons with these KRW tools and increase your shop profits.

No. 933 K-1 PISTON NURLSIZING TOOL

This model clamps in your vise. Handles all passenger car pistons-aluminum, cast iron or steel.

~~WAS $54.50~~
NOW $32.00

Here's what KRW "Nurlsizing" does:

- Increases diameter of piston skirt to correct size quickly, accurately, permanently.
- Eliminates piston slap.
- Reduces cylinder wear.
- Ends scuffing or scoring.
- Assures better lubrication — the knurls act as small "reservoirs" to hold oil.
- Makes overhaul jobs more profitable to you.

No. 934 R-1 PISTON RING LAND REGROOVER

Does the regrooving work of a high priced lathe. This tool regrooves top piston ring land, allowing steel spacer to be inserted. This process eliminates bell-mouth condition of top ring land which allows blowby. Takes less than one minute to set up on a piston.

~~WAS $52.50~~ **NOW $31.00**

No. 934 R-2 100 PACKAGE SPACER RINGS

(not shown)

For use with piston ring land regroover.

~~WAS $15.00~~ **NOW $6.00**

No. 935 PISTON PIN FITTER AND NURLSIZER

Eliminates piston slap caused by collapse of piston skirt on the thrust side. Experiments prove that a wrist pin held tightly at one end and floating at the other prevents piston collapse by permitting piston expansion and contraction due to temperature change without distortion. You accomplish this by running the No. 935 NURLSIZER in and out of the wrist pin boss on one side of piston. Makes pin fitting a pleasure.

~~WAS $48.50~~ **NOW $29.00**

No. 933 K-2 PISTON NURLSIZING TOOL

This model bolts to a bench. Special deep throat takes all passenger car, truck and diesel pistons.

~~WAS $99.50~~
NOW $59.00

*** $69 buys the No. 933 K-1 Piston Nurlsizing Tool (Bench Type), the Piston Ring Land Regroover and 100 Package Spacer Rings**

QUANTITIES LIMITED! NO MORE AT THESE LOW PRICES AFTER THESE ARE GONE — ORDER YOURS TODAY!

K. R. WILSON

Wilson Bldg. Buffalo 3, N. Y.

NOW... SPECIAL PROTECTION, SPECIAL PROFITS WITH NEW 10W/30 MOTOR OIL!

It's news you've been waiting for. "Weather-Proofed" D-X *Special* Motor Oil is now available in SAE 10w/30 weight right in time for spring changes!

Now you have a "Weather-Proofed" oil (either D-X *Special* 5w/20 or 10w/30). Now you can offer all-temperature lubrication for summer and know D-X *Special* 10w/30 will never let you down. This extra-additive, extra-heat-resistant oil is sold with our unconditional money-back guarantee!

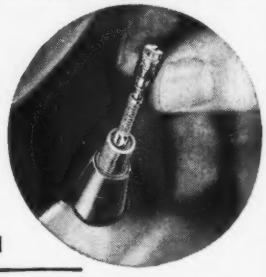
D-X *Special* 10w/30 means you can cut down on oil inventory and make extra money while you're doing it. *Special* not only sells at a premium price to give you a premium profit. It's also a real traffic builder for your best service business.

Don't wait. We're advertising D-X *Special* 10w/30 now. Contact your D-X salesman or D-X distributor immediately.

MID-CONTINENT PETROLEUM CORPORATION
TULSA, OKLAHOMA

Always keep a supply of finest quality Schrader Valve Cores for use in tube repairs. They're important to best tire performance!

You can order Schrader #4000 Tire Valve cores in bulk and in these convenient sets of 5 for sale to motorists.

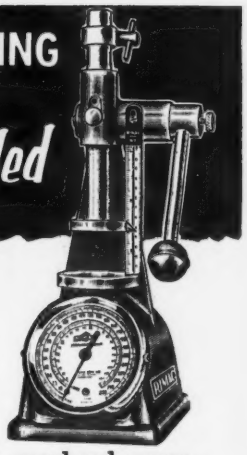


Schrader
REG. U. S. PAT. OFF.

See our ad on page 75

A. SCHRADER'S SON **BROOKLYN 38, N. Y.**
Division of Scovill Manufacturing Company, Incorporated

RIMAC SPRING TESTERS *Come Highly Recommended*



Manufacturers of automobiles, trucks and farm machinery have made Rimac Valve and Clutch Spring Testers standard plant equipment—recommend them for service and overhaul operations.

Etched metal scale at sides indicates exact length of spring; adjustable stop allows quick testing of an entire lot. Suitable for springs up to 2 inches diameter, 4½ inches length—capacity 0-250 lbs.

Ask your jobber or write for literature.

RINCK-McILWAINE INC.
16 HUDSON STREET, NEW YORK 13, N. Y.

Sure, I like to use **GRIZZLY . . .**

because **GRIZZLY** *keeps my customers happy!*

Every product that carries the Grizzly Bear is made to Grizzly's standards of high performance and long life.

For bonding . . .
SAFTIBOND-SILVERTIP AND SAFTIBOND-SYNCRO

For riveting . . .
SILVERTIP AND SYNCRO-SETS

For trucks . . .
SILVERTIP HEAVY DUTY BRAKE BLOCKS
(for longer mileage with less drum wear)

NATIONALLY ADVERTISED! Your customers and prospects see Grizzly SILVERTIP advertised regularly in THE SATURDAY EVENING POST, COLLIER'S and POPULAR MECHANICS. And Grizzly follows through with colorful, effective selling helps.

"There are lots of good reasons why I handle Grizzly, and they all boil down to this—Grizzly keeps my customers happy and helps to make 'em *steady* customers.

"It starts when a customer first comes in. He sees my Grizzly sign. He knows the name "Grizzly" and he knows their reputation. So I don't really have to *sell* Grizzly, 'cause the customer already knows it's a good lining. And Grizzly never disappoints them. Those Grizzly linings perform just the way the customer expects 'em to. That's a big help for a new station like mine that's trying to build up a steady, regular trade."

Grizzly Manufacturing Division, Paulding, Ohio

BEAR IN MIND ...ASK FOR

GRIZZLY

REG. U. S. PAT. OFF.

BRAKE LINING

WORLD'S FINEST TIMING LIGHT

NOW OPERATES ON BOTH 6 and 12-VOLT SYSTEMS!

Auto-Test ATL-50 COMBINATION POWER TIMING LIGHT

BUILT-IN VOLTAGE SELECTOR

Adjusts Automatically TO BATTERY INPUT!

Auto-Test INCORPORATED
600 S. MICHIGAN AVENUE
Chicago 5, Ill.

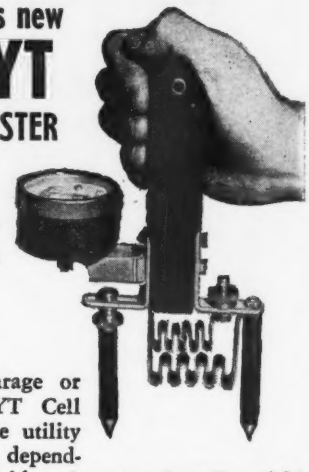
WRITE TODAY FOR COMPLETE DETAILS

Test BOTH 6-v and 12-v Batteries

with this new

HOYT CELL TESTER

HOYT 50th ANNIVERSARY 1904 · 1954 — FIFTY YEARS OF QUALITY METERS



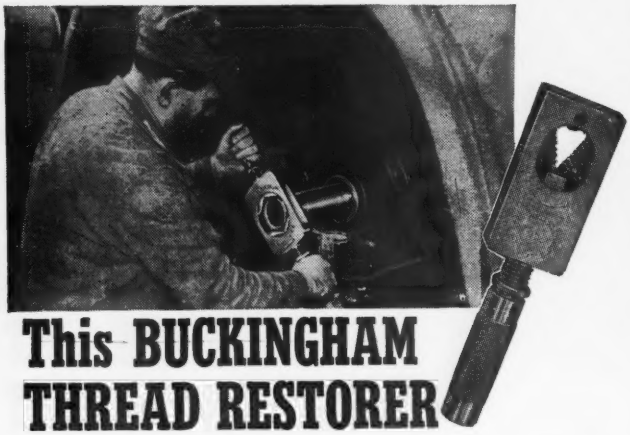
- **Prods adjust to any battery**
- **Large Meter with long scale and colored dial**
- **Center zero scale shows either polarity**

Designed especially for the garage or service station, this new HOYT Cell Tester, No. CT/20, gives double utility at reasonable cost. This rugged, dependable Meter handles easily—tests either 6 or 12-volt cells quickly and accurately at a mere flip of the load switch. Large, easy-to-read 3-color dial instantly shows battery condition. Insulated prods prevent shorts against metal edges during test. Special load metal simulates approximately three times starter load and gives constant resistance regardless of temperature. Ask for catalog page and prices.

Send for booklet, METERS AND MOTORS . . . valuable, practical suggestions for testing all automotive electrical systems—only 50¢.

BURTON-ROGERS CO.

Sole Selling Agents: Hoyt Electrical Instrument Works
42 CARLETON STREET, CAMBRIDGE 42, MASS.



This BUCKINGHAM THREAD RESTORER

Can Save its Cost on the Very First Job

Restores smashed, rusted, corroded threads . . . without removing damaged parts. No filing, no drilling, no hacksawing. Just turn the handle to adjust it to any diameter within its range . . . no blades to change, nothing else needed. Fits any pitch, right hand or left hand threads. Models for diameters up to 12".

- *From your automotive parts dealer, or write:*

Model 6103 — Fits any pitch, right hand and left hand threads, for all diameters from ¼" to 1". Nothing to add, no blades to change. Only $6.50.

SAVES Hours of Time
SAVES $$$ in Parts
SAVES Hard Work
ELIMINATES Costly Lay-Up Time

BUCKINGHAM MANUFACTURING CO., INC.

702 TRAVIS AVENUE **BINGHAMTON, N. Y.**

No More Carbon Scraping

***DUNK AND DRIER BASKET INCLUDED**

Decarbonizes and Cleans CARBURETORS, FUEL PUMPS, PARTS *Like..*

U. S. PAT. #2318842*

New 6½ gal., size deep "Vapor-catcher" design pail.

More Potent* GUNK HYDRO-SEAL

A WORD OF CAUTION
the Genuine GUNK If it doesn't bear trademark, it may be a partly diluted imitation—and will not give you the Safety and Advantages of Genuine GUNK and should be flatly refused.

1. ***Faster . . . Terrific penetration . . . new improved odor.**
2. **Quickly digests and removes carbon gum, paint, lead, makes possible accurate visual inspection and fitting of delicate metering mechanisms, jets, orifices and diesel nozzles . . . without etching.**
3. **Lasts more than one year . . . due to water blanket.**
4. **Works hot or cold . . . Rinses wet or dry.**
5. **Patented Double Barrel Performance Guaranteed.**

SOLD BY BETTER JOBBERS EVERYWHERE

Write for Name of Nearest Stocking Jobber
Flatly Refuse Substitute Imitations

IMMEDIATE DELIVERY
1 PINT OR A TANK CAR

CURRAN CORP.
Mfg. Chemists
LAWRENCE, MASS.

JUST THE CARBURETOR PARTS YOU NEED FOR TOP TUNE UP

CPA 100 — *durable metal cabinet serves as a display, or as a storage cabinet. Cover can be closed and locked.*

HYGRADE

TOP TUNE UP MERCHANDISER

Gasket Packets, Needles and Seats, Pump Piston Plungers — the parts you need for a simple overhaul or a complete rebuilding job—partitioned with index cards and labels so you can find the right part in an instant. Plenty of room for more numbers and/or additional stock. All parts are individually packaged so there's no waste.

Write for catalog sheet HF491 describing special price offer, free dealer helps.

HYGRADE PRODUCTS DIVISION

HYGRADE AUTOMOTIVE PRODUCTS

Standard Motor Products, Inc.
37-18 Northern Blvd.,
Long Island City 1, N. Y.

THE BETTER GUIDE FOR *Best Selling!*

Airguide AUTO COMPASS

with many superior features that make it a sure seller . . .

SHOWN HERE ACTUAL SIZE
DIAM. 2 3/8"
HT. 2 5/8"
BRACKET 2 3/4" LONG

SMARTLY STYLED
Case in choice of soft gray or brown is handsomely modeled to harmonize with today's beautiful car interiors.

EASIER-TO-READ DIAL
Novel jet black Visi-Dome dial with large pure white markings has excellent visibility from any angle. Calibrated to 5° for finer readings.

SUPER POWER ALNICO V MAGNET
Finest magnet known, has 10 times coercive force of finest steel magnets and 3 times the residual induction. Gives faster, steadier readings.

AIRPLANE TYPE COMPENSATORS
An 8 magnet system, proven superior in years of aircraft use. Simple adjustment, unaffected by vibration. Non-magnetic compensator key with each compass.

COMPLETELY UNIVERSAL MOUNTING
Double ball and socket mounting provides most flexible adjustment for any car. Easily and quickly mounted to either concave or convex molding.

EDGE LIGHTED FOR NIGHT USE (*Optional*)
When lighted, dial has a soft green glow which is most attractive and highly visible. (For 6 or 12 volt systems.)

PRICED TO SELL • Retail **$5.95** With Light **$6.95**

Ask your Automotive Jobber

MADE AND GUARANTEED BY MFRS. OF THE FAMOUS LINE OF AIRGUIDE WEATHER INSTRUMENTS

FEE AND STEMWEDEL, INC., 2210 WABANSIA AVE., CHICAGO 47, ILL.

D&T ENGINEERED

WHEEL WEIGHTS

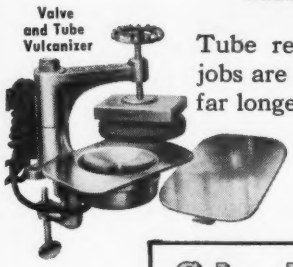
"The Quality Line"

A TYPE and SIZE for EVERY APPLICATION

SEE YOUR JOBBER OR WRITE FOR CATALOG

TURNER *Manufacturing Co.*
KOKOMO, INDIANA, U.S.A.

Schrader Vulcanizer for finest tube repairs!



Tube repair and valve replacement jobs are done right... done fast... last far longer with Schrader Electric Vulcanizer... handles big truck and bus tubes just as neatly as ordinary car sizes.

Schrader
REG. U.S. PAT. OFF.

See our ad on page 15

A. SCHRADER'S SON, BROOKLYN 38, N. Y.
Division of Scovill Manufacturing Company, Incorporated

IT'S EASY TO

RIVET THE NEW WAY

SOMACA

"SOMACA RT-1200" RIVETING TOOL

- COMPACT
- PRACTICAL
- SIMPLE TO OPERATE
- PRODUCES A ROLLED RIVET

For removing and setting rivets in Lower Vent Pivots and Vent Handle Brackets on all popular model cars. May also be used on some Division Bars. Replacement of Vent Handle Brackets may be done without removing Vent from car. Precision made of hardened tool steel.

No. RT-1200 ..... Each $6.90

Complete assembly with Rivet Remover Screw (A) and Regular Rivet Setting Screw (B). (Large Rivet Setting Screw (C), for larger head rivets, $2.25 additional.)

Ask for Bulletin No. 54-1B.

SOMMER & MACA *Glass Machinery Co.*
Automotive Department
3624 SOUTH OAKLEY AVENUE CHICAGO 9, ILLINOIS

KEM

MICRO-BRONZE *LIFETIME* FUEL FILTER

THE MICRO-BRONZE ELEMENT

NEVER NEEDS REPLACEMENT

KEM IGNITION SINCE 1920 FUEL PUMPS

KEM MANUFACTURING CO., INC.
FAIR LAWN, NEW JERSEY, U. S. A.
Cable: Kemsales, Fairlawnnewjersey

CHAMP-ITEMS

give you more, for 1954!

NEW!

During our twenty-five years of supplying the automotive trade with automotive replacement parts we have given you many, many service items to lick service problems. Our Silver Anniversary Catalog for 1954 is full of new ideas to help you. Get your copy of this handy service manual and put our trouble shooters to work. Champ-Items are Time Savers — Money Makers.

NEW!

ORDER FROM YOUR JOBBER

No. 669 POWER GLIDE INDICATOR LIGHT for Chevrolet 1950-54 — perfect vision at night — easy to install. Mounted on attractive display card. List $1.25 each.

No. 675 RUBBER BUMPER for all cars and trucks — eliminates rattles in doors, hoods and trunk lids. Install in a jiffy. Mounted on attractive salesmaker display card. Two sizes. List 5c and 10c each.

AUTOMOTIVE CHAMP-ITEMS INC. REPLACEMENT PARTS

CHAMP-ITEMS, INC. 4101 Maple Ave. St. Louis 14, Mo.

"Knock-Out"

Valve Refacer

MODEL K403

SEE YOUR AUTHORIZED K. O. LEE DISTRIBUTOR OR WRITE FOR COMPLETE LITERATURE

features:

- Grinds wet or dry
- Valve stem range ¼" to 11/16" with three collets
- Five-inch grinding wheel
- Valve head capacity up to 3½", within valve stem range
- V-type table ways requiring no adjustment for wear
- Zero to 90° positive-stop face angle settings—with minus 1° for any angle
- Collet-type work head with controlled rpm's
- Concealed coolant system
- Right-hand table traverse arm
- Precision built for accuracy!

K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA

WET VALVE REFACERS • VALVE SEAT GRINDER SETS • VALVE SEAT INSERTS
RESEATER SETS • ROD ALIGNERS • STUD WRENCHES • DRILLS • SANDERS
POLISHERS • HAND GRINDER SETS • REAMER DRIVES • A. C. WELDERS

SOLATONE

ANTI-CARBON UNIT

ELIMINATES CARBON IN THE ENGINE! REDUCES WEAR! IMPROVES COMBUSTION

$12.95

Adds 30,000 more miles of life to your motor

HERE'S WHAT USERS SAY:

"...SOLATONE makes my car run as if it had a perpetual tune-up job.
Truck Bodies Distributor*

"...SOLATONE is one of the most advanced and revolutionary methods of anti-carbon treatment and am happy to recommend it.
Electric Appliances Co.*

"...I want to thank you for a remarkable product, one which you can be truly proud. Travelling Salesman*

*Excerpts from letters in our files.

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Exclusive Territories Open For Dealers

A. B. HYDROCARBON SYSTEMS
2808 McKinney Ave. Dallas, Texas

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YOU'RE SURE OF SATISFACTION
WHEN YOU SELL 'EM

MAREMONT

Sure satisfaction for you...

You're sure to be satisfied with Maremont Mufflers . . . precisely designed for *every* make and model of vehicle. You'll like the correct fit . . . the no knuckle-busting installation . . . the time saved. You'll like Maremont's *right* profit, too . . . and the way you get more of it with Maremont. For *only* Maremont gives you the proven, outstanding "Sell'em at the Lift" promotion plan that shows you where and how to sell more mufflers.

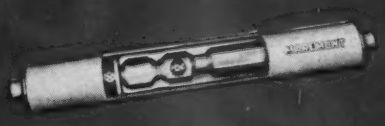
Sure satisfaction for your customers...

And here's where satisfaction really pays off . . . in exhaust system *performance!* Important new Maremont design advancements meet the exhaust system demands of new high compression engines . . . today or tomorrow! Maremont's *right* design for *every* engine builds the kind of satisfaction that keeps car owners happy mile after mile.

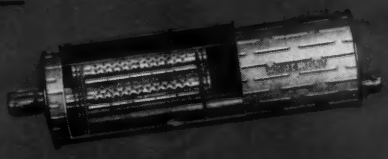
ONLY MAREMONT GIVES YOU ALL THESE SURE SALES FEATURES

...for complete customer satisfaction

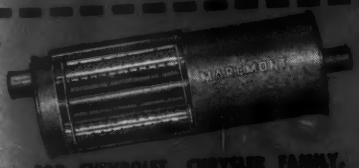
FOR CHRYSLER, OLDS, CADILLAC, ETC.
The 4-Ply Asbestos Wrap mufflers feature 3 steel and one asbestos plies with all 3 steel plies spun into heads, fully protecting asbestos insert.



FOR BUICK, OLDS, PACKARD, ETC.
Special features of the High-Compression Straight-Thru design are the conical cushion chamber and double wrapping to prevent shell noise.



FOR FORD, PLYMOUTH, STUDEBAKER, DODGE, ETC.
The Multi-ribbed Double Shell Oval is noted for hundreds of staggered ribs in both shells . . . reinforcing body.



FOR CHEVROLET, CHRYSLER FAMILY, NASH, ETC.
Standard Double Wrap with twin tubes for maximum strength . . . strongest possible tube construction . . . completely unobstructed gas flow.

FOR LIGHT TRUCKS
Straight-Thru Muffler is tone-tailored to specific truck engine, one-piece straight-thru tube, including inlet and outlet extensions, eliminates stress from end caps and body.

FOR DUAL EXHAUST INSTALLATIONS
Header kits, left bank exhaust kits, left tail pipe kits, and Hollywood-type or factory-duplicate-type mufflers for popular cars and trucks.

GET IT FROM YOUR JOBBER

MAREMONT MUFFLERS

The right design . . . for every engine!

MAREMONT AUTOMOTIVE PRODUCTS, INC. Chicago 8, Illinois

SINCE 1877 MAREMONT

A 3-FOOT DISPLAY AREA CAN SET YOU UP IN A MONEY-MAKING MOTOROLA CAR RADIO BUSINESS!

do what so many others are doing—get that EXTRA INCOME by selling

Motorola
CAR RADIOS

- TOP DISCOUNTS!
- EASY INSTALLATION!
- NO TRADE-IN DEALS!
- EXCELLENT PRICE STRUCTURE!

This year many new cars will be sold without radios to hold down list prices. Customers will be looking to you for their radio buys. The name they know best is Motorola! If you've overlooked this steady and profitable market, now's the time to get in it! So set yourself up. Sell Motorola Car Radios right off the display. No special equipment needed. For full details, see your local Motorola distributor at once.

The name Motorola . . . *PLUS* . . .

TRAFFIC BUILDING PRICES LIKE THIS

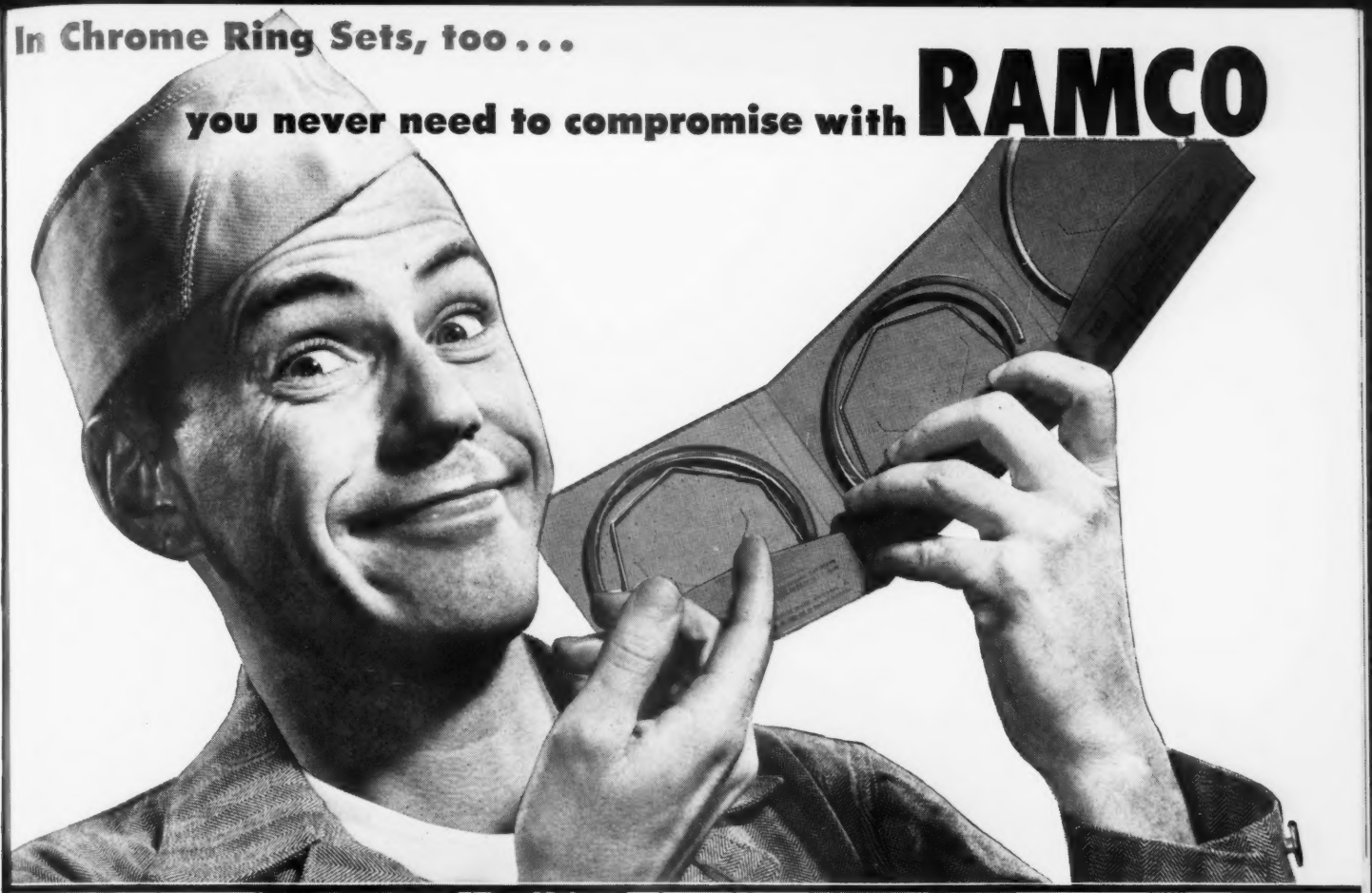
brings in customers!

Lowest price ever! Motorola Price Leader Car Radio. Powerful! Rugged! Dependable! Manually tuned receiver with five tubes, rectifier and seven tuned selective circuits. Superheterodyne receiver for razor-sharp selectivity. Automatic volume control. Heavy-duty vibrator power supply for low battery drain. Rich, superior tone.

Better See **Motorola car radios** *for EXTRA profits!*

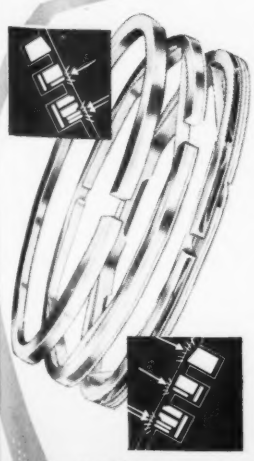
In Chrome Ring Sets, too . . .

you never need to compromise with RAMCO



just the right combination of chrome and cast iron to
DO THE JOB RIGHT

just the right combination of chrome and cast iron to assure
CUSTOMER SATISFACTION



JUST THE RIGHT COMBINATION OF CHROME AND QUICK-SEATING CAST IRON!

RAMCROME "P" SETS enable you to take full advantage of Chrome, but you still get the quick-seating benefits of a cast-iron top ring and oil ring.

RAMCROME "H" SETS give you chrome on the top compression ring, too, to better resist increased friction and scuffing where necessary.

Arrows on diagrams indicate chrome rings on "P" set above and "H" set below.

Copyright 1954, Ramsey Corporation.

R505

It makes no difference whether your job calls for a Ramco regular or chrome set . . . you never need to compromise! As illustrated by the Ramcrome "P" and "H" sets at left, you get just the right Ramco Engineered combination of chrome and quick-seating cast iron, as required by the type of engine.

That means quick, trouble-free installation . . . certain of success before you start! Your profit is protected, too! Correctly-engineered chrome sets assure your customers of longer-lasting Re-Ring jobs *plus* immediate oil control due to RAMCO's QUICKER-SEATING. No more expensive do-over work that eats up profits! Any way you look at it, you need not compromise when you depend on Ramco Engineered Piston Rings!

Ramsey Corporation, St. Louis 8, Mo.
A subsidiary of Thompson Products, Inc.

RAMCO 10 up

REGULAR OR CHROME PLATED

Piston Rings

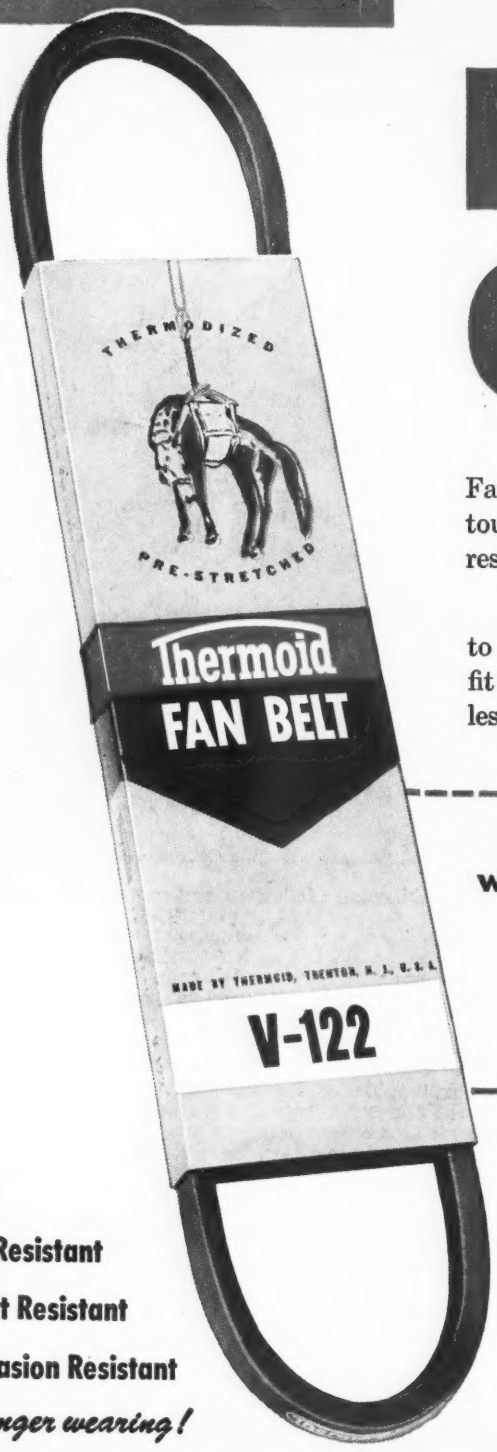
Now a premium Fan Belt... at "regular" prices

Thermoid

Pre-Stretched Fan Belts

with

Neoprene Covers

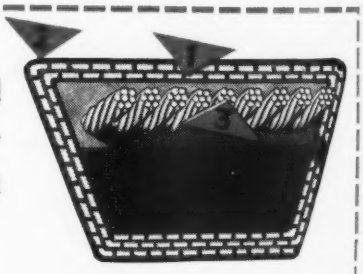


Now, the heavy duty covers of Thermoid Fan Belts are impregnated with Neoprene . . . to provide tougher, more dependable Fan Belts that are highly resistant to oil, heat, and abrasion.

Thermoid Premium Fan Belts are pre-stretched to prevent stretching, slipping and sagging. 32 sizes fit 96% of all popular cars. Faster turnover . . . less inventory . . . greater profit!

Compare Thermoid with any other Fan Belt!

- Neoprene cover—extra protection
- Precision molded—no ragged edges
- Heavy rayon cords—Neoprene tie-gum



Oil Resistant

Heat Resistant

Abrasion Resistant

Longer wearing!

Thermoid

Thermoid Company • Trenton, New Jersey

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.